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STAFF APPRAISAL REPORT

KOREA

PUSAN URBAN MANAGEMENT PROJECT

April 9, 1987

Urban and Water Supply Division
East Asia and Pacific Projects Department

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CURRENCY EQUIVALENTS
(As of March 1, 1987)

Currency unit = Won (W)
W 1.00 = \$0.00116 /1
\$1.00 = W 860 /1
W 1million = \$1,116

FISCAL YEAR

January 1 to December 31

WEIGHTS AND MEASURES

1 meter (m) = 3.28 feet
1 kilometer (km) = 0.62 miles
1 square meter (sq m) = 10.8 square feet
1 hectare (ha) = 10,000 sq m or 2.471 acres or
3,024 pyongs (py)

ABBREVIATIONS AND ACRONYMS

EPB	=	Economic Planning Board
ERR	=	Economic Rate of Return
GA	=	PCG's General Account
ICB	=	International Competitive Bidding
ISWACO	=	Industrial Sites and Water Resources Development Corporation
KLDC	=	Korea Land Development Corporation
KRIHS	=	Korea Research Institute for Human Settlements
LCB	=	Local Competitive Bidding
LTFP	=	Long-Term Financial Plan
MOC	=	Ministry of Construction
MOF	=	Ministry of Finance
MOHA	=	Ministry of Home Affairs
OSROK	=	Office of Supply, Republic of Korea
p.a.	=	per annum
PCG	=	Pusan City Government
PFMSA	=	Pusan Fund Management Special Account
PSIDP	=	Policy Statement and Institutional Development Program
SA	=	PCG's Special Accounts
TSM	=	Transportation System Management

/1 In this report "\$" refers to US dollars.

KOREA

PUSAN URBAN MANAGEMENT PROJECT

Loan and Project Summary

Borrower: Pusan City Government (PCG).

Guarantor: Republic of Korea.

Amount: \$50 million equivalent.

Terms: Repayable in 15 years including 3 years of grace, at the standard variable interest rate.

Project Description: The project supports a comprehensive program of institutional and policy development for PCG, including strengthening of PCG's management, organization and finances. Measures would be introduced to consolidate the planning of all investments, improve the overall transportation system, establish an annual investment plan, long-term financial plan and performance monitoring system, strengthen project evaluation, and complete studies for the implementation of mechanisms to improve cost recovery and integrate the city's financial management and cash resources. Loan funds would finance the foreign exchange cost of a time-slice of a selected portion of PCG's investment plan, including: (a) construction and improvements of priority roads; (b) a comprehensive program of low-cost transportation improvements, under an integrated Transportation System Management (TSM); (c) drainage, flood protection and sewerage works; (d) embankment and slope protection; and (e) improvement and expansion of city services (markets, landfill, equipment, and community facilities).

Risks: There are no serious risks to the project. The risk of some delay in central government approval of the institutional and policy reforms is minimized by PCG's commitment to the proposed institutional programs and its intention to implement these measures in less than one year.

	LOCAL	FOREIGN	TOTAL
<u>Estimated Project Cost</u>	-----(\$ Million)-----		
Roads and Highways	92.5	32.4	124.9
Drainage, Sewerage and Flood Control	10.6	4.4	15.0
Embankment and Slope Protection	10.2	3.1	13.3
Community Facilities	10.6	2.7	13.3
Transportation System Management	4.8	2.2	7.0
Transit Centers	3.2	1.2	4.4
TSM Technical Assistance	0.8	0.1	0.9

Base Cost - March 1987 Prices	132.7	46.1	178.8
Physical Contingencies	6.6	2.3	8.9
Price Contingencies	4.7	1.6	6.3

<u>Project Cost a]</u>	144.0	50.0	194.0
<u>Financing Plan</u>			
Proposed IBRD Loan	-	50.0	50.0
PCG's Internal Cash Generation	144.0	-	144.0

Total Financing Requirements	144.0	50.0	194.0

	----- Bank Fiscal Years -----			
<u>Estimated Disbursements</u>	1988	1989	1990	1991
	----- \$ Million -----			
Annual	13	16	18	3
Cumulative	13	29	47	50

Economic Rate of Return: 24%

a] Including duties and taxes estimated at \$2 million equivalent. Interest during construction is not included, since it is not capitalized by PCG.

KOREA

STAFF APPRAISAL REPORT

PUSAN URBAN MANAGEMENT PROJECT

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This report is based on the findings of an Appraisal Mission consisting of Messrs. Claudio Fernandez (Sr. Financial Analyst), Daniel Gunaratnam (Sr. Engineer), Kyu Sik Lee (Sr. Economist) and Richard Barrett (Transportation Consultant), who visited Korea in November 1986.

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I. - THE URBAN SECTOR

Sectoral Background and Overview

1.01 In the past 25 years, the Korean economy has been transformed from predominantly rural-agricultural to urban-industrial. Between 1960 and 1985, the proportion of GNP generated by agriculture decreased from 48% to 13%. In the same period, the urban population grew by 5.7% p.a.^{1/}, increasing from 30% of the total population to 67%. It is estimated that by the year 2000, over 80% of the population will be living in cities. This will require the maintenance and improvement of services for the existing population as well as some 13 million additional urban dwellers.

1.02 Sector Organization. Korea is divided into 9 provincial governments, which include 46 cities and 139 counties. Cities and counties are the basic units of local government. Seoul City, the capital and largest city, reports directly to the Prime Minister. The Ministry of Home Affairs (MOHA) exerts strong control over the budget, indebtedness, taxes and rates, appointment of key personnel and development plans of the provinces and the other cities. The cities of Pusan, Taegu, Incheon and Kwangju have provincial status. Construction of large infrastructure facilities requires the approval of the Ministry of Construction (MOC), which undertakes and partially subsidizes investments considered to be of national importance. Development plans and tariff increases are coordinated and made consistent with macroeconomic policies set by the Economic Planning Board (EPB). The number of staff positions and the organization of each city is approved by the Ministry of Organization. City operations are divided between the General Account (GA) and the Special Accounts (SAs). The SAs are operated as financially autonomous municipal corporations, providing urban services with direct cost recovery (water, sewerage, subway, toll roads, etc.). All the remaining urban services and activities are included under the GA.

1.03 Sector Financing. At least 65% of city budgets are internally financed. The remaining funds are mainly shared taxes and some borrowing. Local government expenditures now reach 40% of total public expenditures and comprise about 11% of GNP. The main sources of revenues for the cities are various property-related taxes (on acquisition, registration, property, city planning, etc.), which represent about 80% of the revenues of the GA. The tax rates are approved by MOHA, and for equity reasons are the same nationwide. In per capita terms, taxes are higher in cities like Seoul where real estate is more expensive. A few years ago these taxes were increasing by as much as 15% p.a. in real terms because of high rates of property value increases and property turnover, both of which are much lower now. This requires a gradual shift to increase the taxes based on property value rather than on property turnover.

^{1/} Urban areas include all the cities, defined in Korea as having a population of more than 50,000 inhabitants.

The Urban Subsectors: An Overview

1.04 Over the past 20 years, urban development in Korea has evolved from a relatively low priority to a major component of public sector investments. Each city bears almost complete responsibility for planning and providing most urban services and has much wider responsibilities than is typical for cities in developing countries. Given the high rate of urban population growth in Korea, it is remarkable that the cities have for the most part been able to maintain services at an adequate level. The Bank has financed a variety of urban projects in Korea, most of which focused on individual subsectors. The proposed Pusan Urban Management Project would encompass subprojects in all urban subsectors, but would emphasize Pusan's most critical problem, its urban management (Chapter II). The following paragraphs highlight the main features, constraints and issues of the Korean urban sector.

1.05 Water Supply. About 70% of the urban population has house connections, and water quality and quantity are satisfactory. However, rapid increases in population, income, and industrialization require a continuous expansion of water supply capacity. Since readily available water sources have been exhausted, further use and protection of underground water resources is needed. Under the Second Water Supply Project (Loan 2350-K0), the Metropolitan Water Supply Project (Loan 2491-K0) and the Namgang and Taegu Water Supply Project (Loan 2615-K0), the Bank has provided support to the Industrial Sites and Water Resources Corporation (ISWACO) to provide bulk water supply to various sites, optimizing the use of those resources and setting adequate tariffs to rationalize water demand. Next to land, water is the most scarce resource in Korea. This, coupled with a three-month rainy season, requires the construction of expensive dams and long-term planning of resources. The Nakdong Barrage, to be completed in 1987 under Bank Loan 2350-K0, would allow the use of water resources in the lower part of the Nakdong River, now contaminated by salinity, while establishing a Natural Ecological Preservation Area to give permanent protection to the bird habitat in the estuary.

1.06 Sewerage and the Environment. The mandatory use of septic tanks with effluent discharge to combined sewers lessens degradation to the environment. Separate industrial zones also facilitate the treatment of industrial wastes. Concern about the pollution of the country's main rivers has resulted in the recent construction of expensive sewage treatment plants which now handle about 18% of all raw sewage. The main goals in the subsector are to identify optimal alternatives for sewage treatment, achieve adequate financing, and coordinate the construction of sewage treatment plants and sewer lines. Sewerage tariffs were introduced in several cities in 1986. While water and sewerage services are now usually handled by different agencies in Korea, the integration under the same organization of both services, being studied under Loan 2615-K0, is likely to result in better and cheaper services and improved coordination and financing of investments. To safeguard the environment and food production capacity, strong protection has been given to agricultural land and green areas around main cities, and many parks and environmentally

protected areas have been established. The recently established Office of Environment sets priorities for and is undertaking large investments to improve the country's air, water and general environmental quality.

1.07 Urban Transport. Urban transport in Korea currently functions well but has to cope with the explosive growth of car ownership resulting from a rapid increase in GNP, averaging 8.5% p.a. during the last 20 years. At present there is only one private automobile per forty persons, which is much lower than the level in other countries of comparable income, and is a result of high taxation and financial disincentives to car ownership. However, in the last few years, with the continuing increases in income and living standards and the development of a car manufacturing industry, the registration of automobiles has been increasing by 20% p.a., doubling the total stock every four years. As a result, urban transportation is now the most critical investment for many cities. Public transportation, mainly privately owned, operates efficiently and without government subsidies. However, the short-term financing of recently built subway systems in Seoul and Pusan is creating serious cash-flow problems in these cities. The sector also suffers from a lack of integration and coordination among the different transport modes, mainly due to the fragmentation of responsibilities for urban transport among several government bureaus. This results in inefficiencies, reduced intermodal connections, and lack of uniform standards. The Seoul Urban Transportation Project (Loan 2514-KO, 1985) is financing improvements in several critical corridors in Seoul and improved coordination of all transport activities in the city.

1.08 Land Development. Lack of serviced land is one of the main constraints to urban development in Korea. Due to the country's high population density of 400 persons per sq. km., one of the highest in the world, and mountainous topography which reduces the useful land area by two thirds, there is a permanent conflict between land requirements for environmental preservation, urban and industrial development, and agriculture. Government corporations play a critical role in land development, and government policies are generally satisfactory although some relaxation is needed in the strict protection provided to agricultural land in cities, since its economic value for urban development is much higher. Improvements in the efficiency, planning and effectiveness of the Korea Land Development Corporation (KLDC) and support to develop additional urban land, in particular for low-income housing, are being implemented satisfactorily under the Bank-assisted Urban Land Development Project (Loan 2704-KO, 1986).

1.09 Housing. New housing construction is providing only about half of the additional 400,000 units needed annually to meet current demand for houses and eliminate backlogs over time. This results in overcrowding, particularly in the larger cities, and the number of urban households per housing unit almost doubled during the last ten years. Korea has, however, been able to avoid the slums typical of cities with high rates of population growth, and the residential area per household, although small, increased from 34 to 47 sq. m. between

1970 and 1980. The First and Second National Urban Land and Housing Projects (Loans 1980-KO and 2216-KO) supported the development of KLDC, improved housing standards and planning, and emphasized the construction of smaller units, affordable by low-income groups. Both projects were completed satisfactorily. An additional constraint to housing development is the lack of adequate housing finance. Only 7% of the value of new housing and 15% of the units built since 1967 were covered by formal loans. Although three quarters of recent buyers of new homes obtained mortgages, less than 30% of the total house value was financed, requiring large individual savings and higher-cost borrowing outside formal channels. Because of this large self-financing ratio, the low- and medium-income groups have generally been unable to own houses. Several improvements being considered under the Bank's proposed Housing Finance Sector Loan would expand market-based lending for housing and target government-sponsored financing to lower-income groups.

1.10 Regional Development. Employment growth accompanied by structural change has been both a cause and a result of urban growth. Between 1960 and 1984 employment in agriculture fell from 61% to 33%, while industrial employment increased from 9% to 28%. Some localities, however, are lagging behind: almost two thirds of the population in Cholla Nam Province are still engaged in agriculture, and employment differences result in a per capita income half that of Seoul. To promote regional development and industrial diversification, the Government has created numerous industrial estates, practically creating new industrial cities like Pohang and Changwon. To support balanced development in lagging regions, the Bank supported two Regional Development Projects in Kwangju Region (Loans 1070 and 1758-KO) to improve infrastructure, promote employment and improve services in the province. The Jeonju Regional Development Project (Loan 2388-KO, 1984) is expanding these activities to Jeonbug Province.

Bank Objectives and Lending in the Sector

1.11 To date, the Bank has made 11 loans to Korea to support urban and water supply projects. These projects (described above) are being executed satisfactorily and completed on time. The Bank's lending strategy for the sector is to support high priority investments included in Government's development plans and through these operations to improve the efficiency of sector institutions. When appropriate, sector studies are used to consider policy and institutional options. The results of such studies for water supply, housing, spatial development and housing finance have been fed into project design. In its support of Government's development plans in the sector, the Bank has the following key objectives:

- (a) increase the supply of, improve policies for and strengthen the delivery of urban services, in particular for the lower-income population;

- (b) strengthen sector institutions, promote sound investment planning with emphasis on least-cost alternatives, and improve the efficiency of resource use; and
- (c) develop a solid financial basis for the sector, through improvements in accounting, financial and management information systems, and the adoption of appropriate cost recovery and financial policies.

Rationale for Bank Involvement

1.12 The urban management project now proposed for Pusan City capitalizes on the experience gained under previous Bank-assisted projects in urban transport, water and sewerage, and land development, and brings to bear the lessons learned under those projects in a comprehensive way, both for city institutions and policies, as well as for the overall management of the city. Bank support would facilitate the introduction of improvements to centralize dispersed transportation activities, optimize urban transportation, prioritize urban investments, and ensure sound long-term planning. With its past involvement with urban development in Korea and wide experience elsewhere, the Bank is well placed to help Pusan to achieve these objectives. It is hoped that the improvements fostered under the project would serve as models for other cities in Korea.

II. PUSAN URBAN MANAGEMENT

2.01 Pusan Urban Management Issues. The Pusan City Government (PCG), the borrower and beneficiary of the proposed project, faces difficult and challenging urban management problems. These are due to rapid population growth, which tripled the city's population in 25 years to 3.5 million in 1985, and to rapid economic development and rising incomes which contributed to the increased demand for services. As a result, major investments are needed for sewage treatment, water supply and urban transport, all made more expensive by the city's steep mountains and difficult topography. At the same time, a shortage of industrial land, coupled with environmental regulations to move industries from residential neighborhoods, has reduced the rate of growth of new industrial development, employment and the tax base.

2.02 Although PCG has been reasonably successful in meeting its people's basic needs, serious financial constraints encumber city management. These problems arose with the construction and short-term financing of a subway, which requires debt service payments averaging about \$120 million per year. Capital expenditures for the subway took most of the city's funds, forcing the postponement of a large number of priority investments. In 1984, for example, subway expenditures

were 30% higher than all other capital expenditures of the city. The financial problem was aggravated by declining tax revenues due to a slowdown in real estate transactions (the main source of taxes), poor investment planning, and the loss of industries to outlying areas. Although subway construction will be indefinitely postponed after completion of the first line in 1987 or early 1988, PCG still needs to establish an institutional framework for investment planning and financial management to cope with its financial problems, manage its urban services, and maintain a balanced development. Agreement was reached during negotiations on several changes in policies and institutional arrangements designed to improve overall city management. These would be implemented under a Policy Statement and Institutional Development Program (PSIDP, Annex 1), which was approved by PCG in March 1987. Agreement was also reached during negotiations that PCG would discuss with the Bank any changes in the PSIDP. With support from the central government, PCG has also set several committees to study and promote the overall development of the city. Measures under implementation include the expansion of the port and the construction of large industrial sites. Further measures being considered include commercial development and steps to increase the revenue base of the city.

2.03 Institutional Framework. Pusan's organizational structure has not changed in 20 years. Until local autonomy is reestablished, Pusan's Mayor is appointed by the President. The Vice Mayor directs the city's ten main administrative bureaus (Planning and Management, Finance, Health, Industry, Transportation, Urban Planning, Construction, Civil Defence, Fire Protection and Internal Affairs). The activities and services provided by these bureaus are included in the city's General Account (GA). The Planning and Management Bureau, headed by an Assistant Mayor, is responsible for the city's overall planning and budgeting. More than half of the city's staff of 13,000 persons are stationed in decentralized district offices. Staff efficiency is good (3.6 staff per thousand population), particularly considering the scope of services provided. Municipal services which have direct cost recovery (water, subway, housing, toll roads, development of small industries, etc.), are organized under semi-autonomous Special Accounts (SAs), equivalent to municipal corporations, which report directly to the Mayor.

2.04 At present, PCG's main organizational constraints are a weak planning and policy-making capability as well as overlapping responsibilities and dispersed and uncoordinated management of urban transportation. Solutions to these problems have been considered by PCG for some time. The PSIDP includes a major reorganization of the city administration to consolidate specialized functions now scattered across different bureaus, and the introduction of effective planning and policy-making systems, especially for investment planning and financial management. Joint management of water and sewerage services would also be introduced to improve the efficiency of these services. To promote industrial development and rejuvenate the city's increasingly outmoded industrial base (65% of employment is in textiles, plywood, etc.), a new unit would be responsible to plan and promote industrial and commercial development. The city also plans to

study the consolidation of all construction functions under a Construction Center to correct current problems of under- or over-utilized staff due to fluctuations in the level of investment in a given division. Details of Pusan's organization are presented in Annex 2.

2.05 Transportation System Management. Road space as a percentage of the city area is 11% in Pusan as compared with 17% in Seoul. Although traffic congestion is Pusan's most serious urban problem, investment has been directed at the physical expansion of the network, while the coordination of different transport modes and the optimization of existing facilities have received little attention. Pusan's poor transport planning is partly due to the dispersion of transportation planning responsibilities among several bureaus. To address this problem, under the PSIDP, a new Bureau of Transportation and Tourism would be created by December 31, 1987, to consolidate all transport-related responsibilities in one agency. Under this Bureau, a recently established Traffic Planning Division would coordinate the planning of all transport modes and be responsible for implementing Transportation System Management (TSM) improvements. These would involve small scale but critical improvements to the principal traffic corridors and in the central business district. The TSM measures would help the city gain full benefits from the existing transport system. The new Division would also be responsible for preparation of a comprehensive annual transportation investment plan. The institutional arrangements for transportation in Pusan appear in Annex 3.

2.06 Investment Planning: Project Selection and Evaluation System. Pusan currently lacks a mechanism to review large or technically complex projects, to optimize their benefits and to determine inter-sectoral priorities. Particularly critical is the review of SA investments since most of the city's forecasted cash deficits are due to the SAs. In accordance with the PSIDP, by December 31, 1987 PCG would establish under the Planning and Management Bureau a new Regional Development Division with an Investment Management Unit. This Division would: (a) select investment projects based on economic, technical, and financial criteria (para. 3.06); (b) carry out feasibility reviews of large investments; and (c) set guidelines for the selection of small projects, which would be executed by the county offices and integrated into PCG's budgeting system. The engineering and technical expertise required would be provided by engineering staff and, when needed (for large or technically complex projects), by a group of city advisers (professors, experts, etc.).

2.07 Long-Term Financial Planning: Management Information System. Pusan, like most Korean cities, has no adequate long-term financial plan. Long-term planning is needed (a) because many of the large projects initiated now will require several years of investments before their costs and benefits are realized and (b) to assess the financial feasibility of loan-financed investments to be repaid in the future. A Long-Term Financial Plan (LTFP) was developed during project preparation and simulated in microcomputers. The LTFP would be

reviewed, adjusted and used by the city to improve its financial planning and management. The computer model (see summaries in Annexes 5 and 6) provides detailed projections for all the SAs and total city finances, as well as consolidated results and monitoring indicators for management use. This monitoring and performance evaluation is particularly important for the SAs in order to promote efficiency, effectiveness and cost recovery. The LTFP would allow better forecasting of financial resources and expenditures, provide integrated financial data for the city, and allow planning for cost recovery, borrowing and repayment strategies. To facilitate development of the system during its initial years, through close Bank involvement, agreement was reached at negotiations that Pusan's Long-Term Financial Plan and its Investment Plan (which would include a list of subprojects proposed for Bank financing), would be updated at least annually and submitted to the Bank for review by March 15 of each year. Pusan would also present semiannual reports on project implementation and expenditures and prepare a project completion report six months after the closing date of the proposed loan.

2.08 Improved Financing and Cost Recovery: Pusan Fund Management Special Account. Pusan's Special Accounts have a budget almost equal to the city's GA and capital expenditures more than twice those of the GA. Cost recovery is good and most SAs are self-financing through user charges, which are generally satisfactory. Although most SA investments have been financed by loans, the city provides investment grants of about \$30 million per year to the SAs. Starting in 1988, PCG intends to phase out its subsidies for those SAs which can recover the cost of services (e.g., water, sewerage, subway, toll roads, land adjustment and housing) and convert its financial support into long-term loans. The funds recovered would not only provide new financial resources for other projects, but further promote cost recovery and financial discipline. To this end Pusan City is considering the establishment of a Pusan Fund Management Special Account (PFMSA). The PFMSA would also help in securing better financing for both the General and Special Accounts, and better management of cash resources for the city. The PFMSA would finance priority SA investments found economically and technically justified. The draft bylaws for the PFMSA (Annex 7) propose overall management by a Board of Directors, chaired by the Vice Mayor. Day-to-day operations would be under the Director of Planning and Management. Technical reviews would be carried out with the assistance of technical staff and external experts. In cooperation with higher-level authorities, PCG plans to undertake a detailed study of the organization, finances and legal changes for the PFMSA. Agreement was reached during negotiations that a study of the PFMSA would be provided to the Bank for review not later than December 31, 1987.

2.09 PCG Taxes and Revenues. The six main city taxes and their relative share of the total tax revenues in 1985 are registration (24.2%), acquisition (23.0%), property (15.4%), inhabitants (11.9%), city planning (8.1%) and vehicles (6.7%). These taxes represent almost 90% of the total taxes in 1985, compared with 88% in 1981. A variety of other taxes and fees complete the remaining 10%. Total taxes in 1986 were W170 billion (\$200 million), which represent about

60% of the budget (total cash sources) of the city. During 1980-86 tax revenues were doubled, and during 1982-84, tax revenues increased up to 11% p.a. in real terms. However, recent tax increases have been smaller (5% p.a.), since the main taxes are based on property turnover, which has slowed with the city's decreasing rate of expansion. There is little possibility of increasing the GA's revenues since, for equity reasons, and to promote sound budget management, all major taxes have the same rates nationwide.

2.10 Share taxes in Korea are used to complement the cities's revenues, and are collected and allocated by the central government based on a complex methodology that targets a higher share to the cities with higher operational needs. Pusan's share suffered many fluctuations in the past (it doubled during 1983-85, but was reduced by 25% in 1986). This has made budgeting difficult, particularly since the amount of share taxes is defined by the central government only when the city budget is practically completed (by December of each year). Total government grants, including contributions for social programs average about 7% of the city budget, which is one of the lowest rates among Korean cities. Recurrent revenues (Annex 5), including user charges, are mainly from sewerage (established in 1985), tolls, garbage collection, and many other miscellaneous charges, which provided 16% of the 1986 budget. The city's non-recurrent revenues (12% of the 1986 budget) fluctuate widely from year to year, according to the sale of land. The GA has been very conservative in borrowing, and its debt service represents less than 1% of its budget.

2.11 GA Finances. Operational expenses are well controlled and monitored through detailed budgets for each division. The main administrative expense, personnel, which includes some 13,000 employees, represents about 70% of total administrative expenses. Staff efficiency is good, resulting from a controlled expansion of personnel, both at the city and at the central government level. The financial position of the GA is satisfactory. Self-raised revenues provide about 90% of the GA budget, and loans and grants the remaining 10%. Since tax rates are fixed and are expected to be changed slowly over time, the city's financial management is centered on revenue collection, which is good (exceeding 92%), control of expenditures and proper project selection. Under the LTFP lower-priority investments have been postponed, and a balanced budget has been proposed. A major factor in city finances is the city's rate of development. To promote this, long-term measures are also being taken by the city to improve its tax base and increase the city development (para. 2.02). It will also be necessary to reflect quickly price increases into the real estate cadastre, so that the city gets the full revenues possible under the approved tax rates. While GA debt was negligible in the past (debt service amounted to 1% of the budget), the need to provide long-postponed investments requires the proposed Bank loan. Moreover, the investment program have been reduced drastically on account of available resources; this curtailed many needed subprojects. To execute these subprojects, PCG would have to find mechanisms to increase its cash generation by some \$160 million, including additional local and foreign loans during 1988-90. Even considering

these loans, PCG's GA would have an excellent capacity to serve its debt, with a debt service ratio of 10. Under these conditions, GA finances would be satisfactory in the foreseeable future. Detailed financial projections and monitoring indicators for the GA are presented in Annex 5; assumptions for the financial projections are explained in Annex 8.

2.12 SA Finances. Municipal services which have direct cost recovery capacity (water, subway, housing, toll roads, development of small industries, etc.), are organized under the semi-autonomous SAs, which are equivalent to municipal corporations. There are 12 SAs, but two of them, the Subway and Water Supply SAs, represent three quarters of the SAs' budget. Except for the Subway SA, the SAs show a satisfactory financial performance, although under the LTFFP some of their investments had been curtailed. Due to lower than expected demand, the Water Supply SA will have to increase its bond-financing (by revolving previous bond issues) and reduce new investments. However, its rate of return is expected to remain between 4% and 9%, which is satisfactory. The Municipal Housing Construction SA has a budget of about \$20 million per year and promotes the construction of houses for lower-income persons (about 600 per year). Houses are intended to be provided at cost, but actually this SA shows positive net incomes averaging about \$2 million per year between 1987 and 1990. The remaining SAs are small and show sound financial management and reasonable budgeting systems. Financial projections for the main SAs (Subway, Water Supply, Housing, Heavy Equipment and Toll Roads) are presented in Annex 6 and performance monitoring indicators for the SAs are presented in Annex 11. Projections and financial assumptions for all SAs are available in the Project File.

2.13 PCG's main financial problem is the Subway SA. The first 26 km of the subway would be completed by mid-1987 at a reasonable cost of \$700 million; however, construction of the two less important lines will have to be postponed indefinitely. Improper analysis of demand, lack of adequate long-term financial planning, and excessive short-term loans have created a difficult financial situation for the city. Subway fares are low, to match the bus rates, but are expected to cover operating expenses starting in 1987. Interest expenses are high, since most of the construction and cash deficits have been financed by loans. To cover operation and interest expenses, subway fares or ridership would have to double in the next few years (reaching the feasibility study forecast). With expected fare increases, this is likely to be achieved by 1992. The Subway SA's financial problems are compounded by its short-term financing and the revaluation of its loans (mainly in Japanese yen). Contributions by the Central Government and the GA of averaging about W 20 billion each per year will be needed until 1990, as well as refinancing of some of the short-term loans. The resulting financial position would be tight but feasible. In the long term, increased subway ridership, a gradual reduction in debt and interest, and higher fares made feasible by increased incomes would result in a viable financial position.

III. THE PROJECT

3.01 Project Origin and Formulation. The proposed project supports Government's plan to improve Pusan City and strengthen its finances and urban management. PCG initially requested financing for a second urban expressway, but that project had to be postponed when it was realized that the city urgently needed to reshape its organization, finances and investments. This became apparent because previous investments, averaging \$400 million p.a. during 1983-86, were not properly prioritized or undertaken in the context of a well-formulated strategy linking long-term plans and programs with available resources. These investments (mainly for the subway and highways) forced a postponement of smaller but higher priority works. The Government requested financing for this project in September 1986.

3.02 Pusan's Master Plan and Investment Programs. A Master Plan for the development of Pusan City until the year 2000 was prepared by Government in 1986. The Plan was designed to meet the changing needs of the city, which, due to high population densities in the city center (60,000 persons per sq. km.), is developing toward peripheral areas, where population has increased by almost one million persons during the last ten years. The Master Plan is adequately formulated and proposes to: (a) improve the central business district by rehabilitation and improvements, the relocation of industries and promotion of commercial activities; (b) improve city transportation by coordinating the subway, bus and other transport systems, and by executing Transport System Management (TSM) improvements; (c) promote new residential and industrial estates to improve housing, expand the industrial and tax base, and relocate improperly zoned industries; and (d) maintain adequate green areas and improve and protect the environment. During project preparation, a detailed review of the city's priorities resulted in the establishment of a satisfactory Investment Plan within an integrated financial plan. At the same time, about \$400 million of lower-priority investments were postponed between 1987 and 1990, including additional subway lines, large highways and some sewage treatment plants. Most of the remaining investments included in the plan for 1987-89 are small, high-priority works encompassing a variety of urban services, and would mainly benefit lower-income neighborhoods. The GA's Investment Plan for the project period, i.e., 1987-89, envisions expenditures of W 458 billion (\$532 million), including a foreign exchange component of about \$168 million (Annex 10). The proposed project would finance about one third of the Investment Plan.

3.03 Project Objectives. The proposed project would focus on improvement of the city's urban management and finances. The project

objectives are to: (a) improve the city's organization and coordination; (b) strengthen project selection and investment planning; (c) coordinate and optimize transportation planning and investments, now the city's most critical problem; (d) strengthen the city's financial, planning and managerial systems; and (e) support priority investments and the balanced development of the city.

3.04 Project Description. The proposed project would support the implementation of a comprehensive program of institutional and policy development for PCG, and would finance about one third of the investments included in the city's Investment Plan, with emphasis on small, complementary works which complete the benefits of existing infrastructure. The project comprises about 300 subprojects each over W 0.4 billion and many smaller investments including the expansion and improvement of: (a) priority roads (expansion, rehabilitation, paving); (b) a comprehensive program of low-cost transportation improvements under the Transportation System Management (TSM); (c) drainage, flood protection and sewerage works; (d) embankment and steep slope protection; and (e) city services (markets, landfill, equipment, community facilities). Most of these works are in low-income areas. Road improvements are particularly important by providing access to many urban services.

3.05 The main project component would be the strengthening of PCG's urban management, organization and finances. These improvements, included in the approved PSIDP (para. 2.02), have already been proposed by the city to MOHA, and would: (a) establish by December 31, 1987, a new Bureau of Transportation and Tourism, (which would include the recently created Traffic Planning Division), to consolidate planning of all transportation systems and investments; (b) establish the TSM unit by December 31, 1987 to implement small but important improvements to optimize existing transport facilities; (c) establish joint management of water and sewerage services by December 31, 1988 to improve the efficiency, coordination and financing of these services; (d) establish by December 31, 1987 an Investment Management Unit to critically review and evaluate large investments and improve the guidelines for prioritizing small projects; (e) establish by December 31, 1987 a long-term planning and management information system, including performance monitoring of the GA and SAs; (f) establish a yearly review of the city's Investment Plan to set priorities and maintain a satisfactory financial position; (g) expand existing in-house training programs to provide training in transportation management, urban planning, computer applications, budgeting and financial planning; and (h) complete before December 31, 1987 studies for the PFMSA (para. 2.08), to foster cost recovery, integrated financial management and better use of the city's cash resources. Agreement was reached during negotiations that PCG would annually review with the Bank the progress achieved in implementing its Institutional Development Program, with the first review to take place before December 31, 1987.

3.06 Subproject Approval. PCG has satisfactory guidelines to set priorities and evaluate the feasibility of subprojects. Project analysis and prioritization would be reinforced by the establishment

of the new Investment Management Unit. All projects costing more than W 5 billion, which represent 80% of the value but 30% of the number of subprojects, would be prioritized by this unit (para. 2.06). The use of basic guidelines for Bank financed subprojects (Annex 4, para. 6), was confirmed at negotiations. The Bank would review feasibility studies for subprojects proposed for Bank financing costing more than W 8 billion.

3.07 Project Cost and Financing. The proposed project would finance about \$194 million of priority investments included in PCG's 1987-89 Investment Plan, including a foreign exchange component of about \$50 million and taxes and duties of about \$2 million (Table 3.1). Cost estimates are based on detailed designs and recently awarded contract prices for similar works. For projects designed by PCG staff, the engineering cost is included in the city's operational expenses; for other projects, the engineering cost is included in the subproject cost. Base costs are expressed in March 1987 prices. Physical contingencies have been estimated at 5% of base costs in light of experience with similar works and the programmatic character of the project. Estimated price increases over the project period amount to about 2% of base costs plus physical contingencies. Price increases for local and foreign costs are estimated at 3% for 1987, and 1% for 1988-89. Land costs are based on market prices and are high in the city center, where population densities are high. The Bank loan would finance the foreign exchange component of the project (25.8%). The remaining costs would be financed by PCG's internal cash generation.

TABLE 3.1 - PROJECT COST a)

	----Billion Won ----			% Base	----- Million \$ -----			%
	Local	Foreign	Total	Cost	Local	Foreign	Total	Foreign
Roads and Highways	79.46	27.92	107.38	69.9%	92.40	32.47	124.87	26.0%
Drainage, Sewerage and Flood Control	9.11	3.78	12.89	8.4%	10.59	4.39	14.98	29.3%
Embankment and Slope Protection	8.82	2.63	11.45	7.5%	10.26	3.06	13.32	23.0%
Community Facilities	9.16	2.29	11.45	7.5%	10.66	2.66	13.32	20.0%
Transportation System Management	4.14	1.86	6.00	3.9%	4.81	2.16	6.98	31.0%
Transit Centers	2.77	1.03	3.80	2.5%	3.23	1.19	4.42	27.0%
TSM Technical Assistance	0.64	0.11	0.75	0.5%	0.74	0.13	0.87	15.0%
Base Cost, March 1987 Prices	114.11	39.62	153.73	100.0%	132.69	46.07	178.76	25.8%
Physical Contingencies	5.71	1.98	7.69	5.0%	6.63	2.30	8.94	25.8%
Price Contingencies	4.03	1.40	5.42	3.5%	4.68	1.63	6.31	25.8%
TOTAL COST	123.84	43.00	166.84	108.5%	144.00	50.00	194.00	25.8%

a) Due to rounding, the last digit in totals may appear different than the sum of columns

3.08 Project Implementation. The project would be implemented under the direction of the Assistant Mayor for Planning and Management, who would coordinate the studies, planning, and the institutional development program. Construction of major works would be supervised by the Bureau of Construction, and minor works by the

County Engineering Offices. The staff of both agencies are competent and adequate, and have been able to manage similar levels of investments in recent years. Planning and design of major works, mainly routine civil works, have been carried out satisfactorily by local consultants, with occasional assistance of foreign consultants; small works are designed by county engineers and are reviewed by the Bureau of Construction. The project is in an advanced stage of preparation and final designs are ready for all works planned for 1987. Subprojects to be included after 1987 would be based on an annual review of the Investment Plan. The implementation schedule (Annex 11), based on previous years' performance, is realistic. Advance contracting is recommended for some small subprojects started after the appraisal, in order to use the budget allocation for 1987 and to accelerate the achievement of project benefits. PCG has had long experience in acquiring land, which for the proposed project is distributed in many small areas all over the city. Land acquisition procedures, based on negotiations and market values set by independent appraisers, are satisfactory. To develop and retain internal expertise on institutional and management improvement matters, PCG plans to have its staff take primary responsibility for the studies proposed in the PSIDP, with the support of individual advisors and consultants as needed. It is estimated that about 21 man-months of foreign consultants and about 81 man-months of local consultants would be needed for studies, technical support and training for the TSM and the institutional development programs. Consultants for TSM would be appointed under Terms of Reference (Annex 13) and conditions satisfactory to the Bank. The project would be completed by June 30, 1990.

3.09 Procurement. Procurement arrangements for the project are summarized in Table 3.2. International competitive bidding (ICB) would be required for all civil works contracts exceeding \$5 million each, aggregating to about \$27 million. Other civil works aggregating to about \$58 million, would be by local competitive bidding (LCB) procedures which are satisfactory to the Bank. These works are not expected to attract foreign bidders because they are scattered and small (averaging less than \$0.4 million each), and because of the efficiency of the local contracting industry. A limited amount of force account work, aggregated to \$6 million, would be used for dispersed and very small works (less than \$100,000 each), which the city requires to undertake at very short notice. Construction materials (mainly cement and steel reinforcements) are purchased for all Korean cities at prices obtained in bids requested by the Office of Supply, Republic of Korea (OSROK). Because of large volume bids and the competitiveness of the Korean industry, this procurement is efficient and prices are well below international prices. However, the purchase of construction materials will entail a large number of purchase orders every year because each subcontract within each of the city counties requires a separate budgetary control. About 1,200 purchase orders for construction materials would be issued in 1987 alone. To simplify the loan administration, Bank financing would be limited to civil works and the equipment and materials required for the TSM program. These materials and equipment, all under \$0.3 million per contract and aggregating to about \$1 million, would also be

procured through LCB. Procurement documents would be standardized, and contracts costing more than \$1.2 million (W 1 billion) would be handled by OSROK which for many years has satisfactorily carried out procurement of civil works and goods in accordance with Bank guidelines. The Bank's prior review of contracts would therefore be limited to contracts requiring ICB.

TABLE 3.2 - PROCUREMENT OVERVIEW AND BANK FINANCING (\$ Million) a)

<u>Project Element</u>	---- Procurement Method ---			Total Cost
	ICB	LCB	Other	
Civil Works	27 (14)	58 (31)	10 (4)	95 (49)
Materials, Equip. & Tech.Assist.		1 (1)b]	15 (-)	16 (1)
Land Acquisition and Taxes		-	83 (-)	83 (-)
<u>Total</u>	27 (14)	59 (32)	108 (4)	194 (50)

- a] Figures in parentheses are amounts financed by the Bank loan.
b] Includes Bank financing of \$1 million for TSM equipment.

3.10 Disbursements. The proceeds of the Bank loan would be disbursed against i) 70% of expenditures for civil works aggregated to a total amount of \$95.0 million; and ii) 100% of expenditures for materials, equipment for the TSM component aggregating to a total value of \$1.0 million. A Special Account of \$6 million would be established to expedite loan disbursements for eligible expenditures. To reduce the volume of paperwork, contracts below \$1 million would be disbursed under Statements of Expenditure (SOEs). Disbursement of the Bank loan (Annex 12) is expected to take four years, which is comparable to the disbursement profile of Industrial Development Finance projects in Korea, and is feasible given the project's sectoral character. The closing date of the loan would be December 31, 1990. Given the city's financial condition and the need for large investments for land acquisition several months ahead of project civil works financed by the Bank, retroactive financing of about \$5.0 million (10% of the proposed loan) is recommended for contracts signed after February 1, 1987.

3.11 Accounts and Audits. PCG's accounting procedures are satisfactory. Agreement was obtained during negotiations that within six months of the end of each fiscal year PCG would furnish to the Bank an audit report for project expenditures, the SOEs and the Special Account, as audited by independent auditors acceptable to the Bank.

IV. PROJECT JUSTIFICATION

4.01 Justification and Benefits. By strengthening the organization, planning, policies and management of PCG, and implementing a priority investment program, the proposed project would improve the standard of living of the population, and strengthen the finances and provide a reliable base for the development of Pusan City. These improvements would be a model for other cities in Korea, expanding the project benefits. The improved coordination of transportation through the introduction of transport system management techniques and organizational improvements would have high payoffs both in economic terms and by the reduction of accidents and saving of lives through improved road safety. The project has already resulted in the definition of a priority Investment Plan, postponement of lower-priority, large investments and emphasis on small works needed to achieve the full benefits of existing infrastructure or to allow the provision of other urban services. Since most investments would be constructed in lower-income neighborhoods, it is estimated that at least 20% of the project cost would benefit persons from the poverty group (which totals about 16% of Pusan's population). The project would also improve the health and environmental living conditions of the population through the provision of improved services of sanitation, drainage, water supply, solid waste, roads, transportation, and the promotion of balanced development of the overall city.

4.02 Cost Recovery. PCG's taxes and charges for services are generally adequate to recover operation and investment costs. However, lower than expected demand for subway services, the competition of other transportation systems and the large percentage of short-term loans used to finance the subway would require considerable government contributions to the Subway SA during the next few years (para. 2.13).

4.03 Economic Rate of Return. PCG's Investment Plan is a balanced program whereby investments have been evaluated to produce high economic and social returns. The economic return of investments in social services, sewerage, general services, drainage, etc. are difficult to quantify, particularly for small subprojects. The economic analysis is further complicated by the large number of subsectors and subprojects (more than one thousand) included in the Investment Plan. The Economic Rate of Return (ERR) for subprojects representing two thirds of project investments average 24%, which is satisfactory (Annex 9). Given the selection process and financial constraints of PCG, only projects with an ERR above 12% are considered by the city.

4.04 Environmental Aspects. The project supports a series of investments to improve the urban environment. Land zoning would improve the central city business district environment, in terms of population density and traffic congestion. Rezoning of industrial areas away from residential areas will improve living conditions within the city. Other measures to improve the city environment are also included in the city Master Plan. Between 1987 and 1991 the park area within the city will be expanded from 12.3 sq. km to 33.0 sq. km. Sewerage networks will be expanded and would collect industrial wastes presently discharged into the Nakdong estuary. Three sewage treatment plants are under construction, and over the next ten years about three quarters of the city's sewage would be treated. A new solid waste disposal site located away from the city area will be used beginning in 1987. Improvement of the road network through construction of new and upgrading of existing roads combined with the Traffic System Management component will reduce traffic congestion and improve air quality. Finally, the construction of access and fire truck roads will reduce fire losses and facilitate the provision of city cleaning and other services, thus improving the population's living conditions.

4.05 Risks. There are no serious risks to the project. The risk of some delay in central government approval of the institutional and policy reforms is minimized by PCG's commitment to the proposed institutional programs and its intention to implement these measures in less than one year.

V. AGREEMENTS REACHED AND RECOMMENDATION

5.01 PCG has approved the Policy Statement and Institutional Development Program acceptable to the Bank (Annex 1). Agreement has been reached that any changes in the policy statement will be discussed with the Bank (para 2.02).

5.02 Agreements were reached during negotiations that:

- (a) PCG would annually submit to the Bank for review its Investment Plan and updated Long-Term Financial Plan (para. 2.07);
- (b) A copy of the study for the Pusan Fund Management Special Account would be sent to the Bank for review not later than December 31, 1987 (para. 2.08);
- (c) PCG would annually review with the Bank the progress achieved in implementing the Institutional Development Program (para. 3.05);
- (d) PCG will use the agreed criteria for subproject approval and selection (para. 3.06);
- (e) Project expenditures, the SOEs and the Special Account would be audited by independent auditors (para 3.11)

5.03 With the above agreements and conditions, the proposed project would be suitable for a Bank loan of \$50 million, for a term of 15 years, including a grace period of 3 years, at the standard variable interest rate. The borrower would be the Pusan City Government.

Pusan, March, 16 1987

Mr.

Barber B. Conable

President

The International Bank for Reconstruction and Development
Washington, D.C., USA

Reference: Proposed US\$ 50 million Loan for a Pusan Urban
Management Project

Dear Mr. Conable:

I attach herewith a Policy Statement and Institutional Development Program, which has been adopted by Pusan City Government(PCG) and which describes the principal policies and programs that PCG will pursue to enhance the efficiency and effectiveness of urban management in Pusan City.

With Best Regards,



Kim, Joo-Ho

The mayor of Pusan City

KOREA

PUSAN CITY GOVERNMENT

Policy Statement and Institutional Development Program

Background

1. The Pusan City Government (PCG) faces difficult and challenging urban management problems. This results from a rapid population growth, which tripled the city's population in 25 years to reach 3.5 million people in 1985. Moreover, rapid economic development and rising incomes resulted in increased demand for services. During the last ten years, the need to protect the environment has resulted in costly investments in sewage treatment; similarly, water consumption doubled during this period, and the number of motor vehicles increased five-fold. Steep mountains and difficult topographic characteristics made investments more expensive. At the same time shortages of industrial land, coupled with environmental regulation to move industries from residential neighborhoods, reduced the rate of new industrial development, employment and the tax base. Pusan City has been reasonably successful in maintaining an orderly city development and attending to all basic needs, but it now faces financial constraints at a time when there are many priority investments which have been postponed during the years when the subway was under construction.

PCG's Objectives

2. PCG's policy is to implement its programs in accordance with sound management and financial principles. It operates under the overall direction of the Korean Government. Its main objectives are described in the Sixth Five-Year Economic and Social Development Plan. During the period 1987-89, PCG intends to improve its management efficiency and productivity by implementing the Institutional Development Program described below.

Urban Management

3. PCG's policy is to fulfill Government's economic and social objectives, with particular emphasis on maintaining sound progress for the entire city and a balanced development of all counties (Gu). PCG's policy is to manage its functions efficiently, paying particular attention to program and project planning, financial management and staff training. In particular, PCG will complete the development of its computer-based financial management system to include the overall accounting and budgeting system, will promote the development of its human resources to achieve better efficiency and productivity, and will improve its long-term planning to reflect changing needs and priorities, and fulfill the aspirations of the population.

Organization

4. Pusan's organizational structure has changed little during the last 20 years. To improve its organization PCG has already presented a proposal to the Ministry of Home Affairs to consolidate specialized functions that are scattered across different bureaus. This consolidation would particularly benefit the transport sector. Although traffic congestion is Pusan's most serious urban problem, transport investments have emphasized the physical expansion of the network, while the coordination of different methods of transportation and the full utilization of existing facilities received little priority. This is particularly important since most of the city's investments are in transportation. A new Bureau of Transportation and Tourism would be created and staffed before the end of 1987. This Bureau would consolidate the presently dispersed activities in urban transportation and would include the recently established Traffic Planning Division to be responsible for Transportation System Management (TSM). This Division would prepare an annual transportation plan, coordinate the planning for all transportation systems and implement small but critical improvements to obtain full benefits from the existing transportation system. To support TSM activities, PCG plans to hire consultants in urban transportation.

5. An additional improvement being studied by the city would be the establishment by 1988 of a joint management for water and sewerage services. This is expected to improve the efficiency of these services because of the need for close integration in planning, billing, and constructing these services and the better sharing and planning of financial resources.

6. The city will also study the benefits of consolidating all construction functions under a Construction Center, as has been done successfully in Seoul. This would allow sharing, consolidating, and specialization of construction activities, and avoid the problem of changing organization and staffing when new projects are undertaken by a Division.

Improved Financing and Cost Recovery

7. PCG policy is to recover the cost of urban services, while giving proper consideration to their affordability by low-income persons. Adequate cost recovery is the best guarantee for the proper maintenance and expansion of urban services. This is particularly important for the Special Accounts, which have a total budget almost equal to the General Account and are undertaking huge capital expenditures, more than twice those of the General Account. The Special Accounts are intended to be self-financing through user charges. Although most of the Special Accounts' investments have been financed by loans, the city has particularly been providing subsidies of less than W 25 billion per year for the subway investment. Starting in 1988, PCG intends to phase out its subsidies for the Special Accounts which can recover the cost of services (mainly water, sewerage, subway, toll roads, land adjustment and housing) and convert its financial support into soft, long-term loans. The funds recovered

would not only provide new financial resources for other projects, but induce cost recovery and financial discipline. To this end Pusan City is considering the establishment of a Pusan Fund Management Special Account (PFMSA). The PFMSA would also help in securing joint and better financing for both the General and Special Accounts, and better management of cash resources for the city. The PFMSA would finance priority investments by the Special Accounts. The projects' economic and technical justification would be evaluated using standard criteria for subprojects in each sector. In cooperation with higher-level authorities PCG plans to undertake a detailed study of the organization, finance and legal changes for the PFMSA. This study would be completed before December 31, 1987.

Strategic Investment Planning: Project Selection and Evaluation System

8. PCG policy is to undertake projects which provide maximum benefit to the population, while maintaining a sound financial position for the city. Success in achieving these objectives depends largely on the process of selecting the best projects. PCG would establish a new Division for critical review and evaluation of large investments (above W 5 billion each) using standard economic, technical, and financial criteria. Since most of the investments are small and standard economic and financial analyses are not feasible, this Division would prepare guidelines for the selection and establishing the priority of small projects. To achieve this, Pusan City plans to establish, before December 31, 1987, a new Regional Development Division and an Investment Management Unit, under the Planning and Management Bureau. The required engineering and technical expertise would be provided by engineering staff and, when needed (for large or technically complex projects), by a group of city advisers (professors, experts, etc.).

Financial Planning and Forecasting: Management Information System

9. Pusan requires long-term financial planning because many of the large investments initiated now would require financing for several years and their benefits would only be felt after completion. Moreover, long-term planning would allow proper decision making for loan-financed investments, which would have to be repaid after the grace period expires several years later. Starting in 1987, PCG plans to use a computerized Long-Term Financial Plan (LTFP) to update semiannually its financial projections and ensure the financial viability of the General and Special Accounts. At the beginning of each calendar year, PCG would also update its Investment Plan (detailing the investments for the last and the next two years). The LTFP would include a series of basic indicators to monitor annually the performance of the General and the Special Accounts, and promote efficiency, effectiveness and cost recovery. To further improve its financial planning capacity, in 1987 PCG would introduce microcomputers to the Planning and Management Bureau to strengthen and facilitate its planning and budgeting activities.

Staff Training

10. PCG presently has an in-house training institute for all its staff. To reach its objective of securing and retaining highly qualified professional manpower and increasing staff efficiency and motivation, PCG proposes to provide in 1987 and 1988, additional training for high-level staff, particularly in areas of transportation management, urban planning, computer applications, budgeting and financial planning.

KOREA

PUSAN URBAN MANAGEMENT PROJECT

Pusan City Organization

Local Government Organization

1. Korea has three levels of local government: provinces (Do), cities (Si), and counties (Gun). There are nine provinces which include 46 cities and 139 counties. In addition Seoul, the capital and largest city, has "Special Status" and reports directly to the Prime Minister, and the four next largest cities have "direct jurisdiction" with provincial status. Other than Seoul, all cities are under the jurisdiction of the Ministry of Home Affairs (MOHA). Subdistricts of the five cities are wards (Gu) which are equivalent to provincial counties.

Pusan City Organization

2. With a population of 3.5 million, Pusan is the second largest city in Korea and has the country's largest port. Pusan's organizational structure has not changed in 20 years. Until local autonomy is reestablished, Pusan's Mayor is appointed by the President. The Vice Mayor directs the ten main bureaus (Planning and Management, Finance, Health, Industry, Transportation, Urban Planning, Construction, Civil Defense, Fire Protection and Internal Affairs). The bureaus are divided into 40 divisions, headed by directors. The activities and services provided by the bureaus are included in the city's General Account (GA). The Planning and Management Bureau, headed by an Assistant Mayor, is responsible for the city's overall planning and budgeting.

3. All public and municipal services are provided directly and financed by PCG either through the GA or the Special Accounts (SAs) (para. 5). However, as in other cities in Korea, some services which are considered of national importance and may not be properly provided or financed by each city are under central government jurisdiction. These include all primary and high school education, which is administered and financed by a Board of Directors under the jurisdictions of the Ministry of Education; similarly, the police force is under MOHA's jurisdiction. The provision of electricity and gas is the responsibility of national parastatal corporations.

4. About 55% of the 13,000 city employees are stationed in decentralized district offices, which include 10 wards (Gu), one field office and 217 smaller precincts (Dong). The average Gu has about 320,000 residents and the average Dong about 16,000. Each Gu is organized into nine divisions (Taxes, Social Services, Public Health, General Administration, Construction, Urban Planning, Water Supply, Public Relations and Civil Defense). Some of the city's bureaus operate their own field offices separate from the Gu, such as public health centers, housing construction offices, road construction offices, and water supply offices to bill, collect, and control the

distribution systems. Almost 200 employees are "national government" personnel paid by the Central Government. These employees include the city's highest ranking officials. Staff efficiency is good (3.6 staff per thousand population), particularly considering the scope of services provided by the city.

5. Municipal services which have direct cost recovery capacity (water, subway, housing, toll roads, development of small industries, etc.) are organized under the semi-autonomous SAs, which are equivalent to municipal corporations. There are 12 SAs, the largest ones (Subway and Water Supply) report directly to the Mayor. Improper analysis of demand by the SAs, lack of adequate long-term financial planning, and excessive short-term (3 to 5 years) loans have created a difficult financial situation for the city. In particular, subway construction required substantial contributions from the GA and overstretched the city's finances.

6. Cost recovery, billing and collection are generally good. However, to support construction, given the lack of an alternative financial mechanism, the city provides considerable subsidies to the SAs. In the case of the subway, these subsidies also supported the initial operation of the system, until ridership increases to cover the cost of operations. Further support by PCG would be needed until the subway covers its total operating expenses, including interest. This is expected by 1991 through a combination of additional ridership and fare increases. However, there is no mechanism to devolve these contributions to the GA, even if the financial situation of the SA becomes adequate. Moreover, any unused cash in a given SA (for example because of fluctuations in construction expenses) cannot be used by the city or other SAs, preventing full financial control. Each SA undertakes its own borrowing or issues its own bonds, which may conflict with other city needs. The proposed PFMSA (para. 2.08) could solve these problems by converting GA's subsidies to soft-term loans and fostering cost recovery. The PFMSA could also provide a central clearing and control mechanism for the total borrowing of the city, allow the city to issue debentures to finance both the GA and SAs, and provide a mechanism to further review and control the investments of the SAs.

Organizational Changes

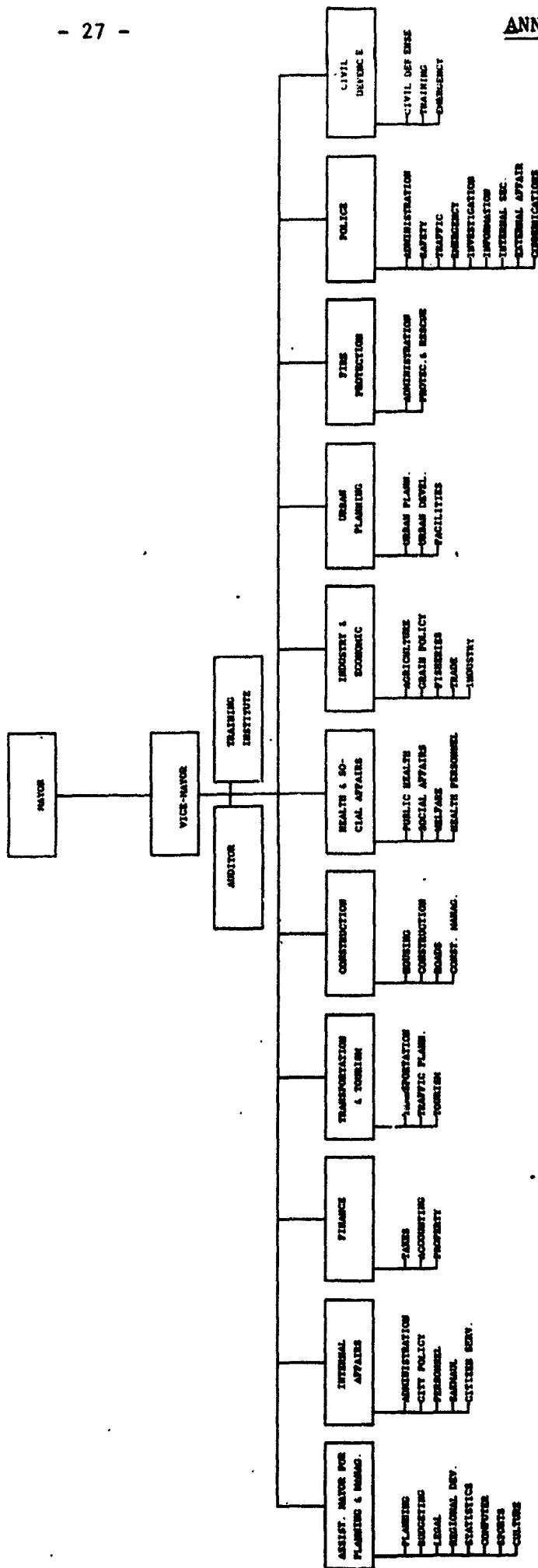
7. Chart 1 shows an improved organizational structure for PCG which has been submitted to MOHA for approval. The new organization is aimed at strengthening technical functions of key divisions and consolidating various specialized functions scattered across different bureaus. The main changes include an integrated planning system for all transportation activities (by far the city's largest investment), through the establishment of a new Transportation and Tourism Bureau, and a Traffic Planning Division which would be responsible for Transportation System Management (TSM) (Annex 3). Equally important would be the establishment of a new Regional Development Division under the Bureau of Planning and Management. This Division, through its Investment Management Unit, will evaluate and select new projects using standard financial, economic, and technical criteria.

Additional medium-term improvements include the consolidation of dispersed functions, by merging the complementary activities of the water and sewerage bureaus, establishing a Construction Center to have permanent and specialized staff responsible for the overall construction activities of the GA, and merging the Trade Policy and Industry Divisions within the Industry and Economic Bureau. Finally, a new Environmental Unit will consolidate various functions related to environmental protection, sanitation, landscaping, and parks administration.

Training

8. The city of Pusan has a Training Institute which offers general clerical and administrative instructions for the city's employees. Fifteen "national government employees" are assigned to the Institute. Additional training programs in government administration, accounting and government guidelines for budgeting, reporting, etc. are carried out at the national level by MOHA. However, there is no established system to provide specialized training, like that needed to operate the TSM program, or to introduce new techniques for long-term planning, performance monitoring and control, use of microcomputers, etc. These problems are compounded by the excessive staff turnover (averaging two years in the job), which results in frequent changes of jobs within the city or in the case of "national government employees" even between different cities. Because of this turnover the permanent benefits of specialized training are limited. Nevertheless, training programs are included under the TSM program (Annex 3), and the PSIDP puts emphasis on additional training, including the provision of microcomputers to the main bureaus, and limited overseas training of higher-level staff. To provide technical expertise in project selection, transportation analysis, etc., the city would engage individual advisors, and has established an advisory group of university professors and experts to assist the city in the analysis of technically complex projects.

PUSAN URBAN MANAGEMENT PROJECT
PUSAN CITY ORGANIZATION



Includes improvements under PUIDP

KOREA

PUSAN URBAN MANAGEMENT PROJECT

Institutional Arrangements for Urban Transportation

1. With urban transport investment totaling W 120 billion per year and representing about 70% of annual expenditures, the City of Pusan is conscious of the need to make important institutional changes to improve transportation planning, project evaluation and the preparation and delivery of road and transportation projects. It proposes to achieve this objective by centralizing all transportation planning activities. A new Traffic Planning Division, to be created, will be responsible for the planning and coordination of all road, bus and subway investments. The Division will also be responsible for the preparation and supervision of a Transport System Management (TSM) program. This institutional change coincides with a new law which will require all cities with populations over one million to produce an annual transportation investment plan.

Organization of Transportation Bureau

2. Two alternative locations for the Traffic Planning Division have been discussed. The first proposal has already been presented for consideration to MOHA. This would involve the creation of a Transportation and Tourism Bureau with three divisions: (a) a new Traffic Planning Division described below, (b) the existing Transportation Division responsible for transport regulation, and (c) the existing Tourism Division.

3. A better alternative, but one which may take longer to implement, since the previous alternative has already been considered for approval by the Central Government, would additionally transfer to the Transportation Bureau the planning unit of the Road Division (presently under the Construction Bureau). This would further simplify and strengthen the preparation of a total transportation plan for the city. Under this alternative, all transportation matters would come under the responsibility of the Roads and Transportation Bureau, which would include the following: (a) a Road Planning Division - transferring the existing planning function from the respective division in the Construction Bureau; (b) a Transportation Division - to be transferred from the Tourism, Trade and Commerce Bureau; and (c) a Traffic Planning Division- a new division described below. The principal advantage of this proposal is that all transportation responsibilities and expertise are consolidated in one bureau, making it easier to develop and implement a comprehensive urban transportation policy. Much of the work of the new Traffic Planning Division would be concerned with developing programs and priorities for road construction and carrying out feasibility studies for roads, including the preparation of an annual transportation plan, as will be required under proposed new government legislation. Under this proposal responsibility for tourism could be transferred to the

Industry and Commerce Division or could remain in the Roads and Transportation Bureau.

4. The Traffic Planning Division. If the present proposal for the Transportation and Tourism Bureau is approved, the Traffic Planning Division would have three sections:

- (a) Transportation Investment Planning: responsible for medium- and long-range planning and project evaluation.
- (b) Traffic and Transport Engineering, responsible for short-range planning, design and implementation.
- (c) Public Transport Management, responsible for management and operations.

5. Transportation Investment Planning. This section would have the following responsibilities:

- (a) To prepare an annual investment program for all road, bus and subway projects;
- (b) To carry out feasibility studies or evaluate all major (greater than W 3 billion) road and public transport projects;
- (c) To develop traffic, transport and parking policies and draw up strategies for their implementation;
- (d) To forecast traffic and traffic impact, and provide analysis; and
- (e) To provide monitoring, surveys and statistics.

6. Traffic and Transport Engineering. The responsibilities of this section would be as follows:

- (a) To manage all traffic facilities (traffic signals, road signs, road markings and parking facilities);
- (b) To prepare detailed plans for TSM improvements (including intersections, pedestrian and public transport facilities) and safety actions along main traffic corridors and in the central business district;
- (c) To supervise the implementation of the TSM and Traffic Facility Improvement Programs; and
- (d) To prepare plans for bus/subway interchange terminals at selected subway stations.

7. Public Transport Management. The responsibilities of this section would be as follows:

- (a) To supervise and coordinate all public transport modes (buses, taxis and subways), including bus route allocation;
- (b) To evaluate the management and operation of all public transport modes;
- (c) To supervise public transport facilities (terminals, bus lanes, etc.); and
- (d) To supervise the implementation of proposals for the improvement of public transport modes.

8. Staffing. The staffing proposal suggested by the Bank is basically similar to that proposed by the City, but gives stronger emphasis on adequate engineering capacity. This includes: (a) for the Transportation Planning Section one section chief, one transport planner, one economist and four clerical staff; (b) for the Traffic and Transport Engineering Section one section chief, two TSM specialists, two draftsmen and four clerical staff; and (c) for the Public Transport Management Section, one section chief, one public transport specialist, and four clerical staff. It is expected that for a period of about two to three years, the specialists in the Traffic Planning Division would be consultants under a technical assistance contract, who would fill key positions for which there are no adequate local personnel (transport planner, TSM specialists, public transport specialist and economist). These specialists should have five to ten years experience. They would also conduct training courses for Pusan City officials (including the Police Traffic Unit), prepare manuals for project evaluation, impact analysis and TSM planning, and carry out studies to implement bus/subway integration. Terms of reference for these experts are provided in Annex 13.

9. Training. Several short training courses of about two weeks duration would be organized in Pusan for city officials. Topics to be covered would include TSM, transportation planning, public transport planning, traffic engineering and traffic safety. It is also recommended that selected Pusan City officials be given the opportunity for long-term overseas training and technical visits to overseas countries where urban transportation is well advanced.

KOREA

PUSAN URBAN MANAGEMENT PROJECT

Procedures and Policies for Project Selection

Overall Planning

1. The city's development is based on two critical documents: its Master Plan and the Five-Year Plan. The Master Plan provides the priorities for the city's development until the year 2000, and is prepared and updated with the assistance of local universities. The Five-Year Plan is prepared following MOHA and EPB guidelines, that set the development of the city in the context of the general government plan. The Sixth-Five Year Plan (1987-91) provides a satisfactory blueprint for the city's development, and concentrates mainly on physical and institutional development, but lacks adequate correlation and integration with future financial resources. Pusan's Long-Term Financial Plan (para. 2.07) would allow a better assessment of future revenues and expenses, and would provide a more realistic basis for the updating and preparation of future five-year plans.

Annual Budget Priorities

2. The procedures and regulations for project selection are given in guidelines issued by the Mayor. These guidelines include specific goals and targets for each budget which are applicable to all investments, including PCG's central bureaus and the county (Gu) offices. The city's central bureaus are in charge of major citywide projects which affect several Gu, while the Gu offices are in charge of smaller projects within the Gu jurisdiction. Priority is given to existing projects which need to be completed, and small projects, requested by the population, which can be completed within a year.

3. Major projects are evaluated based on feasibility studies and economic and financial evaluation techniques, and clearly identified in the Five-Year Plan, or for very large projects in the Master Plan. However, Pusan lacks a mechanism to review large and technically complex projects, to optimize their benefits and to determine inter-sectoral priorities. This would be solved by the proposed Investment Management Unit (para. 2.06). Most of the city's large projects are currently carried out and contracted in annual stages, and the budget allocation is adjusted each year in line with budgetary constraints.

4. Minor projects are selected by the Gu offices, and integrated with the city plans through the budgeting cycle (para. 5). Following the guidelines, the Gu and bureau offices undertake field surveys, prepare preliminary designs, estimate project scope and costs, prepare preliminary drawings and estimate benefits. Based on this information, a committee at the Gu level, composed mainly of technocrats, makes a preliminary decision on which projects will be

included in the next year's budget. The general priorities at the Gu level are (a) to meet the citizens' basic needs in terms of road access, water supply, flood protection, and access to other services, (b) to rehabilitate existing facilities and (c) to upgrade services. Since many projects are not feasible because of budget limitations, priority is given to those projects which have the largest impact on the city. Most projects at the Gu level are small (generally less than W 3 billion) averaging some \$0.4 million.

5. Preliminarily selected projects are sent by each Gu and city bureau to the Budget Division of the Bureau of Planning and Management. The Budget Division reviews all the projects with the directors of the various bureaus and Gu offices and, if needed, calls on specialists to review the projects further. Adjustments are made in the budgeting of each project and in the overall allocations for each Gu to limit expenditures within expected budget constraints. The priority projects selected are sent to the Vice Mayor and Mayor, who approve the projects to be implemented in the coming year.

PROJECT ELIGIBILITY CRITERIA

6. Pusan City Government (PCG) prioritizes its investments by preparing and periodically updating its Master Plan and Five-Year Plan. PCG plans to carry out an annual review of its investment priorities, which would be included in its Investment Plan.

7. Under the direction of the Assistant Mayor for Planning and Management, the Regional Development Division would review all major city investments and continuously upgrade guidelines and criteria for project selection.

8. Investments selected for financing under the proposed Bank-assisted project would satisfy the following conditions:

- (a) The least-cost solution will be adopted for alternative investments which achieve the same benefits;
- (b) The investments should be included in PCG's annual Investment Plan;
- (c) subprojects costing less than W5 billion would be prioritized to achieve maximum benefits for the city and, if benefits are not quantifiable and the subprojects are in the same sector, to achieve the lowest cost per person benefited;
- (d) subprojects estimated to cost more than W5 billion would be reviewed by the Investment Management Unit, using economic or financial analysis of project benefits. For subprojects whose benefits cannot be quantified, a social and economic justification would be made, which would consider among

other things the percentage of low income population benefited, the benefits to other sectors of the economy and the priority for city development.

- (e) Subprojects larger than W 8 billion would be reviewed by the Bank.

PUSAN URBAN MANAGEMENT PROJECT - FINANCIAL PROJECTIONS PUSAN CITY GOVERNMENT

ANNEX 5-Page 1

TABLE 1 - TOTAL FINANCES GENERAL ACCOUNT (GA)

BILLION WON

	1983	1984	1985	1986	1987	1988	1989	1990	1991	TOTAL	% OF
	----- Actual -----									1987-1990	87-90 BUDGET
BUDGET GENERAL & SPECIAL ACCOUNT	363.542	542.724	532.878	562.031	662.897	612.354	581.003	611.232	716.343	2467.485	100.0%
BUDGET GENERAL ACCOUNT	173.217	215.770	245.373	291.046	357.162	377.045	366.435	373.252	415.301	1473.893	59.7%
TOTAL REVENUES GENERAL ACCOUNT	173.217	215.770	245.373	291.046	357.162	377.045	366.435	373.252	415.301	1473.893	59.7%
Total Taxes	129.517	144.529	153.111	171.230	182.825	195.761	209.936	225.197	247.563	813.720	33.0%
Taxes on Real Estate	94.330	102.832	108.735	124.122	129.560	139.088	149.632	161.058	177.659	579.338	23.5%
Other Taxes	35.187	41.697	44.376	47.108	53.265	56.674	60.305	64.139	69.904	234.382	9.5%
Recurrent, Non-Tax Revenues	13.617	13.804	26.537	46.578	46.789	50.847	56.456	62.741	69.632	216.834	8.8%
Non-Recurrent Revenues	16.760	37.965	42.303	34.431	35.431	28.920	17.161	17.515	18.189	99.027	4.0%
Subsidies & Contributions	13.154	15.659	22.226	21.715	44.962	47.710	50.626	53.721	58.417	197.020	8.0%
Borrowing	0.169	3.813	1.196	17.092	47.155	53.806	32.255	14.077	21.500	147.292	6.0%
EXPENSES GENERAL ACCOUNT	20.700	118.930	125.767	158.049	178.970	184.969	194.032	201.715	218.533	759.686	30.8%
Personnel Expenses	0.000	45.768	50.700	61.094	68.630	74.862	81.659	87.424	95.913	312.575	12.7%
Other Recurrent Expenditures	0.000	19.773	19.774	26.401	26.047	27.388	28.802	30.292	32.653	112.529	4.6%
Subsidies For Civic Programs	0.000	17.948	18.038	25.306	34.676	35.959	37.290	38.672	41.099	146.598	5.9%
Debt Service	0.000	4.854	1.292	1.849	3.670	6.431	9.076	9.937	17.944	29.113	1.2%
Subsidies For Special Accounts	20.700	19.664	20.796	27.867	30.194	23.765	19.782	19.800	14.793	93.541	3.8%
Contributions to social Program	0.000	10.923	15.147	15.532	15.753	16.565	17.423	15.589	16.131	65.331	2.6%
CAPITAL EXPEND. GENERAL ACCOUNT	0.000	95.999	115.899	131.271	120.329	166.595	171.840	166.630	180.000	625.394	25.3%
CUMULATIVE CASH SURPLUS (DEFICIT)		13.209	15.952	1.726	59.589	85.069	85.632	90.539	107.307	320.829	13.0%

TABLE 2 - TOTAL FINANCES FOR ALL SPECIAL ACCOUNTS (SA)

BUDGET ALL SPECIAL ACCOUNTS	190.325	326.954	287.505	270.985	305.735	235.310	214.568	237.980	301.043	993.592	40.3%
OPERATING REVENUES SPECIAL ACCOUNT	31.967	53.323	57.620	63.280	77.963	92.681	105.953	117.691	136.789	594.288	16.0%
Public Enterprises	31.967	47.285	51.492	57.024	71.372	85.751	98.599	110.128	128.818	365.850	14.8%
Other Special Accounts	0.000	6.038	6.128	6.256	6.591	6.930	7.354	7.563	7.971	28.438	1.2%
OPERATING EXPENSES	0.087	32.066	38.452	48.937	54.477	58.537	61.365	64.096	69.375	238.475	9.7%
Public Enterprises	0.087	29.568	35.741	45.313	50.751	54.720	57.389	60.022	65.098	222.883	9.0%
Other Special Accounts	0.000	2.498	2.711	3.624	3.726	3.816	3.977	4.074	4.276	15.592	0.6%
NET INCOME	31.880	21.257	19.168	14.343	23.486	34.144	44.587	53.595	67.415	155.813	6.3%
DEBT SERVICE	25.871	32.093	74.079	114.805	140.803	146.618	142.216	150.347	179.064	579.984	23.5%
Public Enterprises	25.871	32.093	74.079	114.805	140.803	146.618	142.216	150.347	179.064	579.984	23.5%
Other Special Accounts	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0%
SUBSIDIES FROM GENERAL ACCOUNT	20.700	19.563	16.366	24.867	29.950	19.765	19.782	19.800	14.793	89.297	3.6%
For Public Enterprises	20.700	19.000	16.800	25.000	30.000	20.000	20.000	20.000	15.000	90.000	3.6%
For Other Special Accounts	0.000	0.563	-0.434	-0.133	-0.050	-0.235	-0.218	-0.200	-0.207	-0.703	0.0%
OTHER FUNDS	15.200	35.413	38.805	39.150	40.344	41.014	41.418	52.209	23.525	174.985	7.1%
For Public Enterprises	15.200	32.091	34.555	34.811	34.913	35.415	36.007	46.640	17.671	152.974	6.2%
For Other Special Accounts	0.000	3.322	4.250	4.339	5.431	5.599	5.411	5.569	5.854	22.011	0.9%
BORROWING	122.458	218.655	174.714	143.687	157.477	81.849	47.415	48.281	125.936	335.023	13.6%
Public Enterprises	122.458	218.655	174.714	143.687	157.477	81.849	47.415	48.281	125.936	335.023	13.6%
Other Special Accounts	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0%
FUNDS AVAIL. FOR CAPITAL EXPEND.	171.877	258.326	177.944	118.857	116.649	31.707	9.562	19.598	47.667	177.516	7.2%
Public Enterprises	171.877	250.873	170.635	111.956	108.338	23.173	0.924	10.679	38.262	143.114	5.8%
Other Special Accounts	0.000	7.453	7.309	6.901	8.311	8.534	8.638	8.919	9.404	34.402	1.4%
CAPITAL EXPENDITURES	74.635	272.623	205.215	201.698	112.663	45.382	43.667	37.758	37.600	239.470	9.7%
Public Enterprises	74.635	266.393	197.073	193.989	104.859	37.202	35.690	29.642	29.150	207.393	8.4%
Other Special Accounts	0.000	6.230	8.142	7.709	7.804	8.180	7.977	8.116	8.450	32.077	1.3%
CUMULATIVE CASH SURPLUS (DEFICIT)	4.00	146.64	122.40	39.25	44.19	31.28	-2.34	-20.07	-9.64	53.059	
CITY'S TOTAL CASH SURPLUS (OR DEFICIT)		159.85	138.36	40.98	103.78	116.35	83.29	70.47	97.66		

TABLE 3 - REVENUES OF THE GENERAL ACCOUNT

BILLION WON

	1983	1984	1985	1986	1987	1988	1989	1990	1991	TOTAL	% OF
	----- Actual -----				----- Estimated -----					1987-1990	87-90 BUDGET
TOTAL BUDGETED REVENUES	173.217	215.770	245.373	291.046	357.162	377.045	366.435	373.252	415.301	1473.893	100.0
TOTAL TAXES	129.517	144.529	153.111	171.230	182.825	195.761	209.936	225.197	247.563	813.720	55.2
Taxes On Real Estate Property:	94.330	102.832	108.735	124.122	129.560	139.088	149.632	161.058	177.659	579.338	39.3
Acquisition Taxes	28.175	34.051	35.376	38.623	40.797	43.677	46.761	50.062	54.923	181.297	12.3
Registration Tax	33.113	34.729	37.194	43.841	44.094	47.430	51.018	54.620	59.923	197.161	13.4
Property Tax	22.000	22.435	23.674	27.354	29.002	31.050	33.555	36.602	40.914	130.209	8.6
City Planning Taxes	11.042	11.617	12.492	14.304	15.667	16.931	18.298	19.774	21.899	70.670	4.6
Other Taxes	35.187	41.697	44.376	47.108	53.265	56.674	60.303	64.139	69.904	234.382	15.9
Inhabitants Tax	14.041	16.231	18.262	18.550	20.321	21.076	21.798	22.522	23.823	85.718	5.8
Vehicles Tax	8.065	9.251	10.282	11.501	13.044	14.558	16.247	18.051	20.551	61.900	4.1
Agency Tax	5.406	6.088	6.603	6.283	8.017	8.421	8.845	9.291	10.001	34.575	2.3
Licenses Tax	3.392	3.511	2.672	3.089	3.100	3.381	3.689	4.023	4.497	14.193	1.0
Fire Fighting Tax	2.727	3.498	3.902	4.379	5.079	5.489	5.932	6.411	7.099	22.910	1.6
Slaughter Houses Tax	0.666	1.013	1.355	1.414	1.490	1.535	1.581	1.629	1.720	6.235	0.4
Farm Land Tax	0.296	0.263	0.036	0.050	0.054	0.053	0.052	0.052	0.052	0.211	0.0
Transfer from Previous Year	0.594	1.842	1.265	1.842	2.160	2.160	2.160	2.160	2.160	8.640	0.6
RECURRENT, NON-TAX REVENUES	13.617	13.804	26.537	46.578	46.789	50.847	56.456	62.741	69.632	216.834	14.5
Users Charges & Fees	4.526	4.567	16.305	33.172	33.605	37.051	42.023	47.635	53.421	160.314	10.2
Toll Roads (From Special Account)				1.518	1.747	1.764	1.782	1.800	1.863	7.094	0.5
Sewerage				27.837	28.000	31.372	36.272	41.812	47.405	137.457	9.2
Rivers & Streams (farmers)				0.793	0.893	0.893	0.893	0.893	0.892	3.571	0.2
Rent				0.485	0.360	0.367	0.375	0.382	0.399	1.484	0.1
Admission Charges (museums)				1.355	1.385	1.422	1.457	1.491	1.561	5.755	0.4
Others User Charges				1.184	1.220	1.232	1.245	1.257	1.301	4.954	0.3
Other Fees & Charges	7.455	8.199	8.722	11.411	11.749	12.343	12.962	13.617	14.665	50.671	3.3
Users charges (medical)				2.552	2.200	2.222	2.244	2.267	2.346	8.933	0.6
Stamps, notary				4.755	4.985	5.387	5.822	6.292	6.968	22.486	1.5
Garbage Collection				4.104	4.564	4.734	4.896	5.058	5.351	19.252	1.3
Interest Income	1.636	1.038	1.510	1.510	1.075	1.086	1.097	1.108	1.146	4.365	0.3
NON-RECURRENT REVENUES	16.760	37.965	42.303	34.431	35.431	28.920	17.161	17.515	18.189	99.027	6.7
Sales of Assets	5.617	24.704	25.018	22.403	23.841	17.000	4.900	4.900	4.900	50.641	3.4
Government's Fees for Services	1.182	1.256	1.261	1.446	1.300	1.339	1.380	1.421	1.501	5.440	0.4
Contributions	0.310			0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Collection of Principal (loans)	0.600	0.600	0.480	0.600	0.600	0.600	0.600	0.600	0.600	2.400	0.2
Fees from Public Utilities			12.815	6.272	6.280	6.406	6.535	6.666	6.969		
Miscellaneous	8.929	11.203	2.583	3.538	3.221	3.383	3.554	3.733	4.018	13.891	0.9
Receivables from Previous Year	0.122	0.202	0.146	0.172	0.189	0.191	0.193	0.195	0.202	0.767	0.0
GRANTS AND CONTRIBUTIONS	13.154	15.659	22.226	21.715	44.962	47.710	50.626	53.721	58.417	197.020	13.3
Share of National Taxes	3.283	5.517	8.621	6.386	2.762	2.957	3.166	3.389	3.718	12.274	0.8
Subsidy Social Expen. & Project	9.871	10.142	13.605	15.329	42.200	44.753	47.461	50.332	54.698	184.746	12.5
BORROWINGS	0.169	3.813	1.196	17.092	47.155	53.806	32.255	14.077	21.500	147.292	10.0
Proposed IBRD Loan	0.000	0.000	0.000	0.000	13.760	25.800	3.440	0.000	0.000	43.000	2.9
Other Loans	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	21.500	0.000	0.0
Existing Loans (OECF, Bonds)	0.169	3.813	1.196	17.092	10.000	28.006	28.815	14.077	0.000	80.898	5.3
Main Five Taxes- Billion Won	108.4	119.1	127.0	142.7	149.9	160.2	171.4	183.6	201.5		
% Five Main Taxes on Total Taxes	83.7%	82.4%	82.9%	83.3%	82.0%	81.8%	81.7%	81.5%	81.4%		
Registration Tax	25.6%	24.0%	24.3%	25.6%	24.1%	24.2%	24.3%	24.3%	24.2%		
Acquisition Taxes	21.8%	23.6%	23.1%	22.6%	22.3%	22.3%	22.3%	22.2%	22.2%		
Property Tax	17.0%	15.5%	15.5%	16.0%	15.9%	15.9%	15.9%	16.3%	16.5%		
Inhabitants Tax	10.8%	11.2%	11.9%	10.8%	11.1%	10.8%	10.4%	10.0%	9.6%		
City Planning Taxes	8.5%	8.0%	8.2%	8.4%	8.6%	8.6%	8.7%	8.8%	8.8%		
% Total Taxes on Budget	74.8%	67.0%	62.4%	58.8%	51.2%	51.9%	57.3%	60.3%	59.6%		
% Borrowing on Budget	0.1%	1.8%	0.5%	5.9%	13.2%	14.3%	8.8%	3.8%	5.2%		
% Government Subsidies on Budget	7.6%	7.3%	9.1%	7.5%	12.6%	12.7%	13.8%	14.4%	14.1%		
% Other Revenues on Budget	17.5%	24.0%	28.1%	27.8%	23.0%	21.2%	20.1%	21.5%	21.1%		
% Increase Real Increase in Taxes		9.1%	3.4%	9.0%	3.7%	6.0%	6.2%	6.2%	6.2%		
% Real Increase in Budget		21.8%	10.9%	15.6%	19.1%	4.5%	-3.8%	0.9%	7.5%		

TABLE 4 - EXPENDITURES GENERAL ACCOUNT

BILLION WON

YEARS	1983	1984	1985	1986	1987	1988	1989	1990	1991	TOTAL	% OF
	----- Actual -----					----- Estimated -----				1987-1990	87-90 BUDGET
TOTAL EXPENDITURES & INVESTMENTS	214.929	241.666	289.320	299.299	351.564	365.872	368.345	398.533	1385.080	94.0%	
PERSONNEL EXPENSES	45.768	50.700	61.094	68.630	74.862	81.639	87.424	95.913	312.575	21.2%	
OTHER ADMINISTRATIVE EXPENDITURES	19.773	19.774	26.401	26.047	27.388	28.802	30.292	32.653	112.529	7.6%	
Materials & Maintenance	7.494	6.693	9.539	9.683	10.181	10.704	11.255	12.129	41.825	2.8%	
Office Materials and Supplies	4.128	3.681	4.701	4.818	5.061	5.316	5.584	6.010	20.779	1.4%	
Vehicles Expenses	2.291	2.051	2.330	2.112	2.240	2.375	2.519	2.738	9.246	0.6%	
Maintenance	0.074	0.167	0.751	0.951	1.018	1.090	1.167	1.280	4.226	0.3%	
Fuel	0.255	0.269	0.445	0.396	0.412	0.429	0.446	0.475	1.682	0.1%	
Medicines	0.746	0.525	1.312	1.408	1.451	1.494	1.539	1.625	5.892	0.4%	
Services & Utilities	7.392	7.424	8.397	6.906	7.254	7.620	8.007	8.623	29.787	2.0%	
Public Utilities	3.504	3.873	4.174	4.590	4.868	5.162	5.475	5.949	20.094	1.4%	
Rent	0.541	0.300	0.869	0.924	0.952	0.981	1.010	1.067	3.867	0.3%	
Taxes & Duties	0.300	0.953	0.803	0.553	0.570	0.587	0.605	0.638	2.314	0.2%	
Consultant Fees	0.717	0.775	2.081	0.341	0.351	0.362	0.373	0.394	1.427	0.1%	
Travel, Representation	2.330	1.293	0.470	0.498	0.513	0.529	0.544	0.575	2.084	0.1%	
Division's Discretionary Expenses	4.287	5.177	7.865	8.856	9.347	9.865	10.412	11.262	38.481	2.6%	
Loans to coal producers	0.600	0.480	0.600	0.600	0.606	0.612	0.618	0.640	2.436	0.2%	
SUBSIDIES FOR CIVIC PROGRAMS	17.948	18.058	25.306	34.676	35.959	37.290	38.672	41.099	146.598	9.9%	
Employees Retirement Fund	3.703	3.054	6.665	9.350	9.727	10.119	10.527	11.222	39.722	2.7%	
School Lunch	8.721	7.845	7.472	9.033	9.306	9.587	9.876	10.426	37.802	2.6%	
Lawsuit Liabilities	0.454	1.011	1.034	1.980	2.060	2.143	2.229	2.376	8.412	0.6%	
Student Loans, Saemaul	0.561	0.875	3.013	3.322	3.456	3.595	3.740	3.987	14.113	1.0%	
Contributions to Public Organiz.	0.714	0.624	0.377	1.149	1.172	1.196	1.220	1.275	4.736	0.3%	
Other civic organization	3.795	4.649	6.745	9.842	10.239	10.651	11.080	11.812	41.812	2.8%	
DEBT SERVICE:	4.854	1.292	1.849	3.670	6.431	9.076	9.937	17.944	29.113	2.0%	
Interest	0.672	0.666	0.864	2.945	6.157	8.802	9.664	9.422	27.568	1.9%	
Amortization	4.182	0.626	0.986	0.725	0.273	0.273	0.273	8.521	1.545	0.1%	
SUBSIDIES FOR SPECIAL ACCOUNTS	20.700	19.664	20.796	27.867	30.194	23.765	19.782	19.800	14.793	93.541	6.3%
Subway	20.700	19.000	16.800	25.000	30.000	20.000	20.000	20.000	15.000	90.000	6.1%
Water Supply	0.101	4.430	3.000	0.244	4.000	0.000	0.000	0.000	0.000	4.244	0.3%
Land Adjustment	0.000	0.000	0.178	0.050	0.000	0.000	0.000	0.000	0.000	0.050	0.0%
Toll Roads (Transfer to G/A)	0.000	-1.100	-1.100	-1.000	-1.000	-1.020	-1.030	-1.066	-4.060	-0.3%	
Medicare	0.463	0.566	0.689	0.800	0.675	0.702	0.730	0.759	2.907	0.2%	
Poor Families	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.400	0.0%	
Agrofisheries	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0%	
CONTRIBUTIONS FOR SOCIAL PROGRAMS	10.923	15.147	15.532	15.753	16.565	17.423	15.589	16.131	65.331	4.4%	
Education	9.670	12.706	13.444	13.500	14.291	15.127	13.271	13.735	56.189	3.8%	
Urban Redevelopment	0.576	1.158	1.243	1.243	1.255	1.268	1.281	1.325	5.047	0.3%	
Disaster Fund	0.410	0.472	0.553	0.600	0.606	0.612	0.618	0.640	2.436	0.2%	
Traffic Training Fund	0.267	0.711	0.192	0.310	0.313	0.316	0.319	0.331	1.259	0.1%	
Cultural Promotion	0.000	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.400	0.0%	
FUNDS AVAILABLE FOR CAPIT. EXPENSES	96.840	119.606	132.997	178.192	192.075	172.403	171.537	196.768	714.208	48.5%	
CAPITAL EXPENDITURES	95.999	115.897	131.271	120.329	166.595	171.840	164.630	180.000	625.394	42.4%	
Roads, Bridges and Highways	32.156	52.799	46.064	60.050	79.009	82.410	78.944	36.688	300.413	20.4%	
Sewage & Drainage	12.250	9.666	28.111	27.915	36.450	40.000	33.600	16.849	137.965	9.4%	
Industry & Economic Support	0.000	3.209	4.927	1.450	14.582	17.159	23.500	6.923	56.691	3.8%	
Disaster Prevention	1.097	2.422	1.659	4.473	2.450	2.450	2.500	1.450	11.873	0.8%	
Park & Saemaul Movement	1.580	2.931	6.049	2.030	3.595	4.184	4.300	1.723	14.109	1.0%	
Social Welfare	0.017	10.270	15.547	6.430	17.520	15.170	14.553	6.555	53.673	3.6%	
Culture & Sports	48.899	10.995	19.080	12.342	5.577	4.095	3.363	3.099	25.377	1.7%	
Firefighting & Civil Defense	0.000	1.186	1.602	1.307	3.532	2.102	1.680	1.053	8.621	0.6%	
General Administration	0.000	6.844	8.232	4.332	3.880	4.270	4.190	2.036	16.672	1.1%	
Other		15.577									
YEARLY CASH SURPLUS (OR DEFICIT)	0.841	3.706	1.726	57.863	25.480	0.563	4.907	16.768	88.814	6.0%	
CUMULATIVE CASH SURPLUS OR DEFICIT 14.743	13.209	15.952	1.726	59.589	83.069	85.632	90.539	107.307			

TABLE 5 - OVERALL FINANCIAL PLAN FOR THE GENERAL ACCOUNT

	TOTAL	%	1987	1988	1989
TOTAL BUDGET	1077.25	100.0%	333.77	377.04	366.44
TOTAL REVENUES	824.13	76.5%	265.05	275.53	283.55
Total Taxes	588.52	54.6%	182.83	195.76	209.94
Non-Recurrent, Non-Tax Revenues	154.09	14.3%	46.79	50.85	56.46
Non-Recurrent Revenues	81.51	7.6%	35.43	28.92	17.16
OPERATIONAL EXPENSES	538.80	50.0%	175.30	178.34	184.96
Personnel	225.15	20.9%	68.63	74.86	81.66
Other Administrative Expenditures	82.24	7.6%	26.05	27.39	28.80
Subsidies for Civic Programs	107.93	10.0%	34.68	35.96	37.29
Subsidies for Special Accounts	73.74	6.8%	30.19	23.77	19.78
Contributions to Social Programs	49.74	4.6%	15.75	16.57	17.42
GRANTS AND CONTRIBUTIONS FROM GOVERNMENT	143.30	13.3%	44.96	47.71	50.63
CASH INCREASE (DECREASE)	83.91	7.8%	57.86	25.48	0.56
FUNDS AVAILABLE FOR DEBT SERVICE	344.724		76.844	119.220	148.661
DEBT SERVICE	19.18	1.8%	3.67	6.43	9.08
Interest	17.90	1.7%	2.94	6.16	8.80
Amortization	1.27	0.1%	0.73	0.27	0.27
FUNDS AVAILABLE FOR CAPITAL EXPENDITURES	325.55	30.2%	73.17	112.79	139.59
CAPITAL EXPENDITURES	458.76	42.6%	120.33	166.60	171.84
NET TO BE FINANCED	133.22	12.4%	47.15	53.81	32.25
FINANCED BY:					
BORROWING	109.82	10.2%	23.76	53.81	32.25
Proposed IBRD Loan	43.00	4.0%	13.76	25.80	3.44
Other Loans	0.00	0.0%	0.00	0.00	0.00
Existing Loans	66.82	6.2%	10.00	28.01	28.81
Debt Service Ratio			20.9	18.5	16.4

TABLE 1 - CONSOLIDATED RESULTS FOR ALL SPECIAL ACCOUNTS (FIRST PART)

BILLION WON

	1983	1984	1985	1986	1987	1988	1989	1990	1991	TOTAL 1987- 1990	% OF 87-90 BUDGET
	----- Actual -----										
TOTAL BUDGETED REVENUES	67.867	108.400	117.221	130.297	148.501	157.460	167.152	189.699	175.107	662.813	100.0
OPERATING REVENUES	31.967	53.323	57.620	63.280	77.963	92.681	105.953	117.691	136.789	394.288	59.5
Public Enterprises	31.967	47.285	51.492	57.024	71.372	85.751	98.599	110.128	128.818	365.850	55.2
Subway	0.000	0.000	2.736	5.314	12.369	20.236	23.915	25.111	32.958	81.630	12.3
Water Supply	31.967	38.520	40.785	43.333	49.895	55.803	64.236	73.765	83.440	243.698	36.8
Housing (Low Income)	0.000	8.765	7.971	8.377	9.108	9.713	10.448	11.253	12.421	40.522	6.1
Other Special Accounts	0.000	6.038	6.128	6.256	6.591	6.930	7.354	7.563	7.971	28.438	4.3
Land Adjustment	0.000	0.581	0.275	0.294	0.434	0.671	0.729	0.794	0.886	2.628	0.4
Heavy Equipment	0.000	2.226	2.599	2.873	2.959	2.989	3.019	3.049	3.156	12.015	1.8
Toll Roads	0.000	2.909	2.909	2.709	2.817	2.872	3.191	3.287	3.470	12.167	1.8
Medicare	0.000	0.020	0.006	0.011	0.011	0.012	0.013	0.014	0.015	0.050	0.0
Promotion Small Industries	0.000	0.241	0.268	0.292	0.310	0.325	0.340	0.356	0.383	1.332	0.2
Poor Families Support Fund	0.000	0.018	0.004	0.017	0.022	0.025	0.026	0.027	0.028	0.099	0.0
Saemaul Income Support Fund	0.000	0.000	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.013	0.0
Agro-Fishery Housing	0.000	0.043	0.064	0.057	0.035	0.034	0.033	0.032	0.031	0.134	0.0
OPERATING EXPENSES	0.087	32.066	38.452	48.937	54.477	58.537	61.363	64.096	69.375	238.475	36.0
Public Enterprises	0.087	29.568	35.741	45.313	50.751	54.720	57.389	60.022	65.098	222.883	33.6
Subway	0.087	0.467	4.524	11.076	12.621	13.998	15.034	15.640	16.742	57.293	8.6
Water Supply	0.000	22.168	24.345	26.933	30.519	32.592	33.590	34.932	37.913	131.634	19.9
Housing (Low Income)	0.000	6.933	6.872	7.304	7.610	8.130	8.765	9.450	10.443	33.956	5.1
Other Special Accounts	0.000	2.498	2.711	3.624	3.726	3.816	3.977	4.074	4.276	15.592	2.4
Land Adjustment	0.000	0.128	0.105	0.186	0.175	0.188	0.198	0.208	0.225	0.769	0.1
Heavy Equipment	0.000	1.551	1.749	2.122	2.236	2.284	2.333	2.383	2.494	9.236	1.4
Toll Roads	0.000	0.809	0.848	1.104	1.156	1.184	1.287	1.318	1.384	4.945	0.7
Medicare	0.000	0.010	0.009	0.196	0.089	0.088	0.090	0.092	0.095	0.359	0.1
Promotion Small Industries	0.000	0.000	0.000	0.005	0.010	0.010	0.011	0.011	0.012	0.041	0.0
Poor Families Support Fund	0.000	0.000	0.000	0.000	0.007	0.009	0.010	0.010	0.011	0.036	0.0
Saemaul Income Support Fund	0.000	0.000	0.000	0.000	0.040	0.041	0.035	0.037	0.040	0.154	0.0
Agro-Fishery Housing	0.000	0.000	0.000	0.011	0.013	0.013	0.014	0.014	0.015	0.054	0.0
NET INCOME	31.880	21.257	19.168	14.343	23.486	34.144	44.587	53.595	67.415	155.813	23.5
DEBT SERVICE	25.871	32.093	74.079	114.805	140.803	146.618	142.216	150.347	179.064	579.984	87.5
Public Enterprises	25.871	32.093	74.079	114.805	140.803	146.618	142.216	150.347	179.064	579.984	87.5
Subway	25.871	20.771	57.216	99.087	116.104	102.307	113.594	117.434	141.125	449.439	67.8
Water Supply	0.000	7.809	12.227	11.167	19.788	39.292	23.128	27.232	28.629	109.440	16.5
Housing (Low Income)	0.000	3.513	4.636	4.551	4.911	5.019	5.494	5.681	9.309	21.105	3.2
Other Special Accounts	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
SUBSIDIES FROM GENERAL ACCOUNT	20.700	19.664	20.796	27.867	30.194	23.765	19.782	19.800	14.793	93.541	14.1
For Public Enterprises	20.700	19.101	21.230	28.000	30.244	24.000	20.000	20.000	15.000	94.244	14.2
Subway	20.700	19.000	16.800	25.000	30.000	20.000	20.000	20.000	15.000	90.000	13.6
Water Supply	0.000	0.101	4.430	3.000	0.244	4.000	0.000	0.000	0.000	4.244	0.6
For Other Special Accounts	0.000	0.563	-0.434	-0.133	-0.050	-0.235	-0.218	-0.200	-0.207	-0.703	-0.1
Land Adjustment	0.000	0.000	0.000	0.178	0.050	0.000	0.000	0.000	0.000	0.050	0.0
Tolls (transfer to G. Account)	0.000	0.000	-1.100	-1.100	-1.000	-1.010	-1.020	-1.030	-1.066	-4.060	-0.6
Medicare	0.000	0.463	0.566	0.689	0.800	0.675	0.702	0.730	0.759	2.907	0.4
Poor Families Support Fund	0.000	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.400	0.1
Agro-Fishery Housing	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0

02/23/87

TABLE 1 - CONSOLIDATED RESULTS FOR ALL SPECIAL ACCOUNTS (CONTINUATION)

BILLION WON

	1983	1984	1985	1986	1987	1988	1989	1990	1991	TOTAL	% OF
	-----	Actual	-----							1987-1990	87-90
						-----Estimated-----				1990	BUDGET
OTHER SOURCES OF FUNDS	15.200	35.413	38.805	39.150	40.344	41.014	41.418	52.209	23.525	174.985	26.4
Public Enterprises	15.200	32.091	34.555	34.811	34.913	35.415	36.007	46.640	17.671	152.974	23.1
Subway	15.200	18.000	20.000	20.000	20.000	20.000	20.000	30.000	0.000	90.000	13.6
Water Supply	0.000	3.649	3.440	3.600	3.000	3.000	3.000	3.000	3.000	12.000	1.8
Housing (Low Income)	0.000	10.442	11.115	11.211	11.913	12.415	13.007	13.640	14.671	50.974	7.7
Other Special Accounts	0.000	3.322	4.250	4.339	5.431	5.599	5.411	5.569	5.854	22.011	3.3
Land Adjustment	0.000	0.204	0.102	0.025	0.020	0.020	0.020	0.020	0.020	0.080	0.0
Heavy Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Toll Roads	0.000	0.103	0.068	0.151	0.157	0.160	0.163	0.167	0.174	0.648	0.1
Medicare	0.000	1.922	2.341	2.857	2.948	2.982	3.011	3.042	3.148	11.982	1.8
Promotion Small Industries	0.000	0.032	0.041	0.066	0.072	0.077	0.080	0.082	0.087	0.312	0.0
Poor Families Support Fund	0.000	0.121	0.148	0.188	0.248	0.306	0.369	0.391	0.406	1.314	0.2
Saemaul Income Support Fund	0.000	0.940	1.550	1.052	1.986	2.055	1.767	1.868	2.019	7.676	1.2
Agro-Fishery Housing	0.000	0.028	0.076	0.063	0.065	0.056	0.068	0.061	0.063	0.250	0.0
BORROWINGS	122.458	218.655	174.714	143.687	157.477	81.849	47.415	48.281	125.936	335.023	50.5
Public Enterprises	122.458	218.655	174.714	143.687	157.477	81.849	47.415	48.281	125.936	335.023	50.5
Subway	122.458	180.984	150.098	107.000	117.709	63.570	32.477	42.712	119.546	256.469	38.7
Water Supply	0.000	25.466	19.940	33.937	36.743	14.979	11.338	1.568	1.389	64.629	9.8
Housing (Low Income)	0.000	12.205	4.676	2.750	3.025	3.300	3.600	4.000	5.000	13.925	2.1
Other Special Accounts	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
FUNDS AVAIL. FOR CAPITAL EXPENDITURE	171.877	258.326	177.944	118.857	116.649	31.707	9.562	19.598	47.667	177.516	26.8
Public Enterprises	171.877	250.873	170.635	111.956	108.338	23.173	0.924	10.679	38.262	143.114	21.6
Subway	139.910	204.333	131.034	58.432	60.264	8.298	-30.128	-15.251	9.636	23.182	3.5
Water Supply	31.967	37.759	32.023	45.771	39.574	5.898	21.855	16.169	21.287	83.497	12.6
Housing (Low Income)	0.000	8.761	7.578	7.733	8.500	8.978	9.196	9.761	7.339	36.435	5.5
Other Special Accounts	0.000	7.453	7.309	6.901	8.311	8.534	8.638	8.919	9.404	34.402	5.2
Land Adjustment	0.000	0.657	0.272	0.311	0.329	0.503	0.552	0.606	0.681	1.990	0.3
Heavy Equipment	0.000	0.675	0.850	0.751	0.723	0.705	0.686	0.666	0.661	2.780	0.4
Toll Roads	0.000	2.203	1.029	0.656	0.818	0.838	1.048	1.106	1.195	3.809	0.6
Medicare	0.000	2.395	2.904	3.361	3.670	3.581	3.636	3.693	3.826	14.580	2.2
Promotion Small Industries	0.000	0.273	0.309	0.353	0.372	0.392	0.410	0.428	0.458	1.602	0.2
Poor Families Support Fund	0.000	0.239	0.252	0.305	0.362	0.422	0.485	0.507	0.523	1.776	0.3
Saemaul Income Support Fund	0.000	0.940	1.553	1.055	1.949	2.017	1.735	1.834	1.982	7.535	1.1
Agro-Fishery Housing	0.000	0.071	0.140	0.109	0.087	0.077	0.087	0.079	0.078	0.330	0.0
CAPITAL EXPENDITURES	74.635	272.623	205.215	201.698	112.663	45.382	43.667	37.758	37.600	239.470	36.1
Public Enterprises	74.635	266.393	197.073	193.989	104.859	37.202	35.690	29.642	29.150	207.393	31.3
Subway	48.658	207.432	155.506	148.596	45.700	3.500	3.500	3.500	3.500	56.200	8.5
Water Supply	25.977	39.452	31.313	35.333	45.332	20.834	21.200	16.200	16.200	103.566	15.6
Housing (Low Income)	0.000	19.509	10.254	10.060	13.827	12.868	10.990	9.942	9.450	47.627	7.2
Other Special Accounts	0.000	6.230	8.142	7.709	7.804	8.180	7.977	8.116	8.450	32.077	4.8
Land Adjustment	0.000	0.000	0.947	0.500	0.370	0.450	0.450	0.499	0.566	1.769	0.3
Heavy Equipment	0.000	0.300	0.723	0.746	0.510	0.510	0.510	0.462	0.429	1.992	0.3
Toll Roads	0.000	2.098	1.093	1.036	0.700	0.800	0.800	0.900	1.000	3.200	0.5
Medicare	0.000	2.161	3.080	3.350	3.450	3.550	3.600	3.513	3.513	14.113	2.1
Promotion Small Industries	0.000	0.314	0.334	0.361	0.346	0.353	0.360	0.367	0.384	1.427	0.2
Poor Families Support Fund	0.000	0.216	0.234	0.331	0.360	0.375	0.390	0.405	0.432	1.529	0.2
Saemaul Income Support Fund	0.000	0.940	1.553	1.055	1.949	2.017	1.735	1.834	1.982	7.535	1.1
Agro-Fishery Housing	0.000	0.201	0.78	0.330	0.119	0.125	0.132	0.136	0.144	0.512	0.1
CUMULATIVE CASH SURPLUS (DEFICIT)	4.00	146.64	122.40	39.25	44.19	31.28	-2.34	-20.07	-9.64	53.06	8.0
Public Enterprises	3.34	144.31	120.46	38.43	41.91	27.88	-6.89	-25.85	-16.74	37.05	5.6
Subway	3.34	124.80	99.00	8.86	23.42	28.22	-5.41	-24.16	-18.03	22.06	3.3
Water Supply	0.00	6.27	7.59	18.02	12.27	-2.67	-2.01	-2.04	3.04	5.54	0.8
Housing (Low Income)	0.00	13.24	13.88	11.55	6.22	2.33	0.54	0.36	-1.75	9.45	1.4
Other Special Accounts	0.66	2.33	1.94	0.82	2.28	3.40	4.55	5.78	7.09	16.00	2.4
Land Adjustment	0.00	0.92	0.25	0.06	0.02	0.07	0.17	0.28	0.40	0.55	0.1
Heavy Equipment	0.03	0.41	0.54	0.54	0.75	0.95	1.13	1.33	1.56	4.16	0.6
Toll Roads	0.53	0.44	0.38	0.00	0.12	0.16	0.40	0.61	0.80	1.29	0.2
Medicare	0.00	0.00	0.30	0.01	0.23	0.26	0.30	0.48	0.79	1.27	0.2
Promotion Small Industries	0.00	0.03	0.01	0.00	0.03	0.06	0.11	0.18	0.25	0.38	0.1
Poor Families Support Fund	0.00	0.01	0.04	0.01	0.01	0.06	0.16	0.26	0.35	0.49	0.1
Saemaul Income Support Fund	0.05	0.05	0.01	0.00	0.95	1.72	2.20	2.63	2.99	7.50	1.1
Agro-Fishery Housing	0.06	0.46	0.42	0.20	0.17	0.12	0.07	0.02	-0.05	0.38	0.1

TABLE 2 - SUBWAY SPECIAL ACCOUNT

Billion Won

	1983	1984	1985	1986	1987	1988	1989	1990	1991	TOTAL	% OF
	Actual				Estimated						1987-90
											BUDGET
TOTAL BUDGETED REVENUES	165.868	225.591	192.774	168.615	188.989	124.602	98.500	117.823	167.504	529.914	100.0
OPERATING REVENUE			2.736	5.314	12.369	20.236	23.915	25.111	32.958	81.630	15.4
Ticket Sales			2.516	4.688	11.780	19.272	22.776	23.915	31.388	77.743	14.7
Other (5% of Ticket Sales)			0.220	0.626	0.589	0.964	1.139	1.196	1.569	3.887	0.7
OPERATING EXPENSES	0.087	0.467	4.524	11.076	12.621	13.998	15.034	15.640	16.742	57.293	10.8
Personnel			2.928	6.898	7.482	7.871	8.268	8.479	8.975	32.100	6.1
Power	0.087	0.467	0.108	0.144	0.256	0.324	0.369	0.386	0.413	1.335	0.3
Maintenance			1.240	3.327	4.112	4.984	5.537	5.872	6.382	20.505	3.9
Other Administrative Expenses			0.248	0.707	0.772	0.819	0.860	0.903	0.972	3.354	0.6
Subway Operation			0.540	0.655	0.715	0.758	0.797	0.837	0.901	3.107	0.6
Other (loss in construction consigned)			0.448	0.698	0.719	0.726	0.733	0.741	0.767	2.919	0.6
OTHER REVENUES	7.510	7.607	3.140	11.301	8.910	0.797	2.108	0.000	0.000	11.815	2.2
INTEREST EXPENSES	25.871	20.771	21.524	45.046	61.729	69.670	68.145	64.278	58.194	263.822	49.8
Foreign Interest	25.871	20.771	36.493	48.331	50.983	49.400	46.642	42.608	37.318	32.402	0.000
Domestic Interest			21.524	11.715	15.746	20.270	21.504	21.670	20.876	18.688	0.741
Less Interest Capitalized			-36.493	-15.000	-5.000						
NET INCOME	-18.448	-13.631	-20.172	-39.507	-53.071	-62.635	-57.157	-54.807	-41.978	-227.670	-43.0
LOAN AMORTIZATION			35.692	54.041	54.375	32.637	45.449	53.156	82.932	185.617	35.0
Foreign Principal			0.692	3.280	42.893	16.389	28.529	35.500	48.734	26.854	0.000
Domestic Principal			35.000	50.761	11.482	16.248	16.920	17.657	34.198	36.987	0.000
NET INTERNAL CASH GENERATION	-18.448	-13.631	-55.864	-93.548	-107.446	-95.272	-102.605	-107.964	-124.910	-413.287	-78.0
SUBSIDY FROM PUSAN CITY	20.700	19.000	16.800	25.000	30.000	20.000	20.000	20.000	15.000	90.000	17.0
GOVERNMENT GRANTS	15.200	18.000	20.000	20.000	20.000	20.000	20.000	30.000		90.000	17.0
BORROWINGS	122.458	180.984	150.098	107.000	117.709	63.570	32.477	42.712	119.546	256.469	48.4
Foreign Loans	103.729	164.632	108.631	63.000	30.935	11.519	28.674	28.680	86.014	0.014	0.0
Local Loans	16.729	16.352	41.467	44.000	86.774	52.051	3.804	14.032	33.533	2.179	0.4
FUNDS AVAIL. FOR CAPITAL EXPENDITURE	139.910	204.353	131.034	58.452	60.264	8.298	-30.128	-15.251	9.636	23.182	4.4
CAPITAL EXPENDITURES	48.658	207.432	155.506	148.396	45.700	3.500	3.500	3.500	3.500	56.200	10.6
Construction Subway Line 1	47.861	207.432	111.359	130.128	37.200					37.200	7.0
Automotives, Machineries & Equ	0.797		28.711	0.468	0.500	0.500	0.500	0.500	0.500	2.000	0.4
Interest Capitalized	0.000	0.000	36.493	15.000	5.000	0.000	0.000	0.000	0.000	5.000	0.9
Working Capital Needs			-30.308	3.000	3.000	3.000	3.000	3.000	3.000	12.000	2.3
Exchange Losses Capitalized			9.251							0.000	0.0
CASH SURPLUS (+) OR DEFICIT (-)		-3.079	-15.221	-90.144	14.564	4.798	-33.628	-18.751	6.136	-33.018	-6.2
CUMULATIVE SURPLUS OR DEFICIT	3.340	124.801	99.000	8.856	23.419	28.217	-5.411	-24.162	-18.026		0.0
Monitoring Indicators:											
Ridership 1000 Trips/day			89.4	79.3	161.4	220.0	260.0	273.0	286.7		
Ridership to cover Operation & Interest-1000/day			426.9	837.3	1018.5	955.1	949.5	912.3	684.3		
Ridership Forecasted Feasibility Study-1000/day			89.0	130.0	229.0	429.0	542.0	569.1	597.6		
% Actual vs Forecasted Ridership			100%	61%	70%	51%	48%	48%	48%		
Ridership Million Trips/Year			16.4	28.9	58.90	80.30	94.90	99.65	104.63		
Operating Expenses per Ride			276	383	214	174	158	157	160		
Fare (Won per trip)			167	184	200	240	240	240	300		
Fare Increase to cover Operation				108%	7%	-27%	-34%	-35%	-47%		
Employees for Operation			1036	1140	1200	1250	1300	1320	1350		
Employees for Construction			131	128	50	50	50	50	50		
Employees per 1000 Riderships			11.6	14.4	7.4	5.7	5.0	4.8	4.7		
Cash Surplus (Deficit) on Revenues			-556%	-1696%	118%	24%	-141%	-75%	19%		

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TABLE 3 - WATER SUPPLY SPECIAL ACCOUNT

Billion Won

	1983	1984	1985	1986	1987	1988	1989	1990	1991	TOTAL	% OF
	-----	Actual	-----			-----	-----	-----		1987-1990	87-90
						Estimated					BUDGET
TOTAL BUDGETED REVENUES	31.967	42.270	48.655	49.933	53.139	62.803	67.236	76.765	86.440	259.942	100.0
OPERATIONAL REVENUES	31.967	38.520	40.785	43.333	49.895	55.803	64.236	73.765	83.440	243.698	93.8
Water Revenues	31.967	36.994	39.620	41.712	47.952	53.727	62.119	71.607	81.185	235.407	90.6
Other Revenues	0.000	1.526	1.165	1.621	1.943	2.075	2.116	2.158	2.254	8.292	3.2
OPERATIONAL EXPENSES	0.000	22.168	24.345	26.933	30.519	32.592	33.590	34.932	37.913	131.634	50.6
Personnel	0.000	5.192	5.790	7.063	7.488	7.752	8.014	8.279	8.764	31.533	12.1
Power	0.000	12.620	12.648	13.600	16.077	17.489	17.998	18.793	20.686	70.357	27.1
Chemicals, Materials	0.000	1.569	1.845	1.900	2.246	2.443	2.514	2.625	2.890	9.829	3.8
Raw Water Purchase	0.000	0.314	0.650	0.670	0.792	0.862	0.887	0.926	1.019	3.466	1.3
Maintenance	0.000	0.903	1.873	2.000	2.120	2.195	2.269	2.344	2.482	8.929	3.4
Administrative Cost	0.000	1.570	1.539	1.700	1.795	1.852	1.908	1.965	2.073	7.520	2.9
NET INCOME (Before Deprec. & Intere	31.967	16.352	16.440	16.400	19.376	23.210	30.645	38.833	45.526	112.064	43.1
DEBT SERVICE		7.809	12.227	11.167	19.788	39.292	23.128	27.232	28.629	109.440	42.1
Interest		4.956	4.248	7.517	13.550	13.514	13.594	13.407	10.361		
Amortization		2.853	7.979	3.650	6.238	25.778	9.534	13.825	18.268		
NET INTERNAL CASH GENERATION	31.967	8.543	4.213	5.233	-0.413	-16.082	7.517	11.601	16.897	2.624	1.0
SUBSIDY FROM PUSAN CITY		0.101	4.430	3.000	0.244	4.000					
OTHER FUNDS (Non-Operational Revenues)		3.649	3.440	3.600	3.000	3.000	3.000	3.000	3.000	12.000	4.6
BORROWING:	0.000	25.466	19.940	33.937	36.743	14.979	11.338	1.568	1.389	64.629	24.9
Compulsory Water Bonds		5.964	13.784	7.210	6.613	5.979	6.338	1.568	1.389	20.498	7.9
Market Bonds		14.000		4.000	8.000	4.000	0.000	0.000	0.000	12.000	4.6
Government Loans		3.400	4.000	9.740	10.000	5.000	5.000	0.000	0.000	20.000	7.7
OECF		2.102	2.139	12.981	12.130	0.000	0.000	0.000	0.000	12.130	4.7
Other		0.000	0.017	0.006						0.000	0.0
FUNDS AVAIL. FOR CAPITAL EXPENDITUR	31.967	37.759	32.023	45.771	39.574	5.898	21.855	16.169	21.287	83.497	32.1
CAPITAL EXPENDITURES	25.977	39.452	31.313	35.333	45.332	20.834	21.200	16.200	16.200	103.566	39.8
Water Treatment Plants		26.293	33.992	33.210	28.550	9.634	10.000			48.184	18.5
Improvement Water Facilities					15.582	10.000	10.000	15.000	15.000	50.582	19.5
Equipment & Other Assets		1.731	2.567	1.623	0.200	0.200	0.200	0.200	0.200	0.800	0.3
Working Capital Needs		11.428	-5.246	0.500	1.000	1.000	1.000	1.000	1.000	4.000	1.5
CASH SURPLUS (OR DEFICIT)	5.990	-1.693	0.710	10.438	-5.758	-14.936	0.655	-0.031	5.087	-20.069	-7.7
CUMULATIVE CASH SURPLUS OR DEFICIT		6.270	7.587	18.025	12.267	-2.669	-2.014	-2.044	3.042		
NET INCOME INCLUDING DEPRECIATION		8.228	5.301	-0.637	-5.189	-2.281	4.474	12.317	21.600		
Monitoring Indicators:											
Popul. with Water Supply (1000)	3084	3218	3271	3360	3501	3626	3748	3870	3996		
# of Water Connections	216.753	229.411	238.652	246.900	258.024	268.012	277.870	287.783	298.038		
% Population with Water Supply	90.8%	92.1%	93.0%	93.5%	94.4%	95.2%	96.1%	97.0%	98.0%		
Water Sold (liters/capita/day)	167	170	176	180	187	195	202	208	215		
Water Sold-Million Tons per year	188.33	200.24	209.90	220.98	239.45	257.90	275.92	294.31	313.00		
% Unaccounted-for Water	40.0%	37.7%	38.5%	36.4%	40.0%	40.0%	37.0%	35.0%	35.0%		
Water Produced-Million Tons/Year	313.87	321.44	341.12	347.72	399.09	429.83	437.96	452.78	481.54		
% Tariff Increase In Current Prices		8.8%	2.2%	0.0%	6.1%	4.0%	8.1%	8.1%	6.6%		
Average Tariff W/ton	169.7	184.7	188.8	188.8	200.3	208.3	225.1	243.3	259.4		
Total Number of Staff	1292	1330	1360	1509	1543	1573	1602	1630	1659		
# Staff per 1000 Connections	6.0	5.8	5.7	6.1	6.0	5.9	5.8	5.7	5.6		
Production Capacity- Mill. Tons/Day	0.945	0.945	0.945	1.500	1.500	1.500	2.000	2.000	2.000		
Peak Daily Production-15% above av	0.989	1.013	1.075	1.096	1.257	1.354	1.380	1.427	1.517		
Rate of Return on Net Fixed Assets		10.9%	4.9%	2.5%	2.7%	3.3%	5.3%	7.4%	9.1%		
% Self-Financing of Investments	123.1%	21.7%	13.5%	14.8%	-0.9%	-77.2%	35.5%	71.6%	104.3%		

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TABLE 4 - MUNICIPAL HOUSING CONSTRUCTION

	1983	1984	1985	1986	1987	1988	1989	1990	1991	TOTAL	% OF
	-----	Actual	-----							1987-1990	87-90
										1990	BUDGET
TOTAL BUDGETED REVENUES	0.000	19.207	19.086	19.588	21.021	22.128	23.455	24.892	27.092	91.496	100.0
OPERATIONAL REVENUES	0.000	8.765	7.971	8.377	9.108	9.713	10.448	11.253	12.421	40.522	44.3
Sales of Houses	0.000	5.458	7.141	7.512	8.202	8.781	9.489	10.255	11.357	36.726	40.1
Sales of Land	0.000	3.118	0.482	0.453	0.467	0.471	0.476	0.490	0.518	1.904	2.1
Housing Management Fees	0.000	0.010	0.052	0.084	0.095	0.106	0.117	0.131	0.149	0.449	0.5
Rents	0.000	0.179	0.296	0.328	0.345	0.355	0.366	0.377	0.398	1.442	1.6
OPERATIONAL EXPENSES	0.000	6.933	6.872	7.304	7.610	8.130	8.765	9.450	10.443	33.956	37.1
Cost of Sale-Housing	0.000	4.981	6.200	6.522	6.971	7.464	8.066	8.717	9.653	31.218	34.1
Cost of Land	0.000	1.376	0.131	0.123	0.128	0.131	0.134	0.137	0.143	0.530	0.6
Management of Rental	0.000	0.024	0.050	0.086	0.090	0.093	0.096	0.099	0.104	0.378	0.4
General & Administrative Expense	0.000	0.552	0.491	0.573	0.420	0.443	0.469	0.498	0.542	1.830	2.0
NET INCOME	0.000	1.832	1.099	1.073	1.498	1.582	1.684	1.802	1.978	6.566	7.2
DEBT SERVICE REPAYMENT	0.000	3.513	4.636	4.551	4.911	5.019	5.494	5.681	9.309	21.105	23.1
Interest		2.159	2.849	3.065	3.366	3.444	3.959	4.135	4.070		
Loans Before 1986		2.159	2.849	2.982	3.105	2.978	3.258	3.284	3.275		
Bonds After 1985				0.083	0.261	0.466	0.701	0.851	0.795	0.611	
Principal		1.411	1.796	1.486	1.545	1.575	1.535	1.546	5.239		
Loans Before 1986				1.498	1.545	1.575	1.535	1.546	1.556		
Bonds After 1985				0.000	0.000	0.000	0.000	0.000	3.683	4.052	
OTHER SOURCES OF FUNDS	0.000	10.442	11.115	11.211	11.913	12.415	13.007	13.640	14.671	50.974	55.7
Cost of Sales	0.000	6.357	6.331	6.645	7.100	7.595	8.200	8.854	9.797	31.748	34.7
Non-Operating Revenues	0.000	3.516	4.123	4.290	4.463	4.533	4.644	4.737	4.952	18.397	20.1
Amortization Deferred Sales		-0.936	-1.178	-1.277	-1.394	-1.493	-1.613	-1.743	-1.931	-6.244	-6.8
Collection of Housing Loans		1.400	1.657	1.500	1.545	1.560	1.576	1.592	1.648	6.273	6.9
Subsidy			0.053	0.053							
Transfers from other A/C		0.105	0.129		0.200	0.200	0.200	0.200	0.205	0.800	0.9
BORROWING	0.000	12.205	4.676	2.750	3.023	3.300	3.600	4.000	5.000	13.925	15.2
FUNDS AVAILABLE FOR CAP. EXPENSES	0.000	8.761	7.578	7.733	8.500	8.978	9.196	9.761	7.339	36.435	39.8
CAPITAL EXPENDITURES	0.000	19.509	10.254	10.060	13.827	12.868	10.990	9.942	9.450	47.627	52.1
Housing Construction		4.476	6.454	6.912	7.603	8.300	8.300	8.300	8.300	32.503	35.5
Rental Housing		3.672	3.713							0.000	0.0
Housing Loans		4.310	4.073	0.506	0.150	0.168	0.180	0.132	0.150	0.630	0.7
Housing Site Development				0.642	4.849	4.200	2.310	1.310	0.800	12.669	13.8
Land Purchase					1.025					1.025	1.1
Working Capital Needs (+)		7.051	-3.986	2.000	0.200	0.200	0.200	0.200	0.200	0.800	0.9
CASH SURPLUS (+) OR DEFICIT (-)	0.000	-10.748	-2.676	-2.327	-5.327	-3.890	-1.794	-0.181	-2.111	-11.192	-12.2
ACCUMULATED CASH SURPLUS OR DEFICIT		13.241	13.876	11.550	6.223	2.333	0.539	0.358	-1.753		
Housing Units Constructed	690	800	322	500	550	600	650	650	650		

TABLE 5 - HEAVY EQUIPMENT SPECIAL ACCOUNT

	1983	1984	1985	1986	1987	1988	1989	1990	1991	TOTAL	% OF
	-----	Actual	Budget			-----	Estimated			1987-1990	87-90
											BUDGET
TOTAL BUDGETED REVENUES	0.000	2.226	2.599	2.873	2.959	2.989	3.019	3.049	3.156	12.013	435.6
OPERATIONAL REVENUES	0.000	2.226	2.599	2.873	2.959	2.989	3.019	3.049	3.156	12.013	435.6
Rental Fees for Equipment	0.000	1.920	2.295	2.299	2.368	2.392	2.416	2.440	2.525	9.615	348.6
Others & Previous Year Income	0.000	0.306	0.304	0.574	0.591	0.597	0.603	0.609	0.630	2.401	87.0
OPERATIONAL EXPENSES	0.000	1.551	1.749	2.122	2.236	2.284	2.333	2.383	2.494	9.236	334.8
Personnel	0.000	0.531	0.601	0.685	0.716	0.734	0.753	0.772	0.811	2.974	107.8
Other Operating Expenses	0.000	1.020	1.148	1.404	1.461	1.490	1.520	1.550	1.621	6.021	218.3
Contingencies (2%)				0.033	0.059	0.060	0.060	0.061	0.063	0.240	8.7
NET INCOME	0.000	0.675	0.850	0.751	0.723	0.705	0.686	0.666	0.661	2.780	100.8
DEBT SERVICE REPAYMENT	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
OTHER SOURCES OF FUNDS	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
FUNDS AVAIL. FOR CAPITAL EXPENDITURE	0.000	0.675	0.850	0.751	0.723	0.705	0.686	0.666	0.661	2.780	100.8
CAPITAL EXPENDITURES	0.000	0.300	0.723	0.746	0.510	0.510	0.510	0.462	0.429	1.992	72.2
Purchase of Equipment	0.000	0.300	0.555	0.646	0.500	0.500	0.500	0.500	0.500	2.000	72.5
Other	0.000	0.000	0.168	0.100	0.010	0.010	0.010			0.030	1.1
CASH SURPLUS (DEFICIT)	0.000	0.375	0.127	0.005	0.213	0.195	0.176	0.204	0.233	0.788	28.6
CUMULATIVE CASH SURPLUS (DEFICIT)	0.034	0.409	0.536	0.541	0.754	0.949	1.125	1.329	1.562		

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TOLL TABLE 6 - TOLL ROADS SPECIAL ACCOUNT

	1983	1984	1985	1986	1987	1988	1989	1990	1991	TOTAL	% OF
	-----	Actual				-----	Estimated			1987-1990	87-90
											BUDGET
TOTAL BUDGETED REVENUES	0.000	3.012	2.977	2.860	2.974	3.032	3.354	3.454	3.645	12.814	464.6
OPERATIONAL REVENUES (Toll Charges)	0.000	2.909	2.909	2.709	2.817	2.872	3.191	3.287	3.470	12.167	441.1
OPERATIONAL EXPENSES	0.000	0.809	0.848	1.104	1.156	1.184	1.287	1.318	1.384	4.945	179.3
Personnel	0.000	0.409	0.512	0.626	0.651	0.664	0.738	0.753	0.787	2.806	101.7
Power	0.000	0.386	0.247	0.264	0.277	0.286	0.303	0.312	0.330	1.178	42.7
Other Operating Expenses	0.000	0.014	0.089	0.160	0.168	0.173	0.178	0.184	0.194	0.703	25.5
Contingencies (2%)	0.000	0.000	0.000	0.054	0.059	0.061	0.067	0.069	0.073	0.256	9.3
NET INCOME	0.000	2.100	2.061	1.603	1.660	1.688	1.904	1.969	2.087	7.222	261.8
DEBT SERVICE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
TRANSFER TO GENERAL ACCOUNT	0.000	0.000	1.100	1.100	1.000	1.010	1.020	1.030	1.066	4.060	147.2
OTHER SOURCES OF FUNDS	0.000	0.103	0.068	0.151	0.157	0.160	0.163	0.167	0.174	0.648	23.5
FUNDS AVAIL. FOR CAPITAL EXPENDITURE	0.000	2.203	1.029	0.656	0.818	0.838	1.048	1.106	1.195	3.809	138.1
CAPITAL EXPENDITURES	0.000	2.098	1.093	1.036	0.700	0.800	0.800	0.900	1.000	3.200	116.0
CASH SURPLUS (DEFICIT)	0.000	0.105	-0.064	-0.380	0.118	0.038	0.248	0.206	0.195	0.609	22.1
CUMULATIVE CASH SURPLUS (DEFICIT)	0.525	0.444	0.380	0.000	0.118	0.156	0.404	0.609	0.804		

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PUSAN URBAN MANAGEMENT PROJECT

Draft Bylaws, Enforcement Bylaws and Management Regulations Being
Considered for a Pusan Fund Management Special Account

A. Bylaws of the Pusan Fund Management Special Account

Article 1 - Objectives. The purpose of this bylaw is to establish the Pusan Fund Management Special Account (PFMSA) as a Special Account. The objectives of the PFMSA are to enhance the sound and efficient management and operation of the Special Accounts and Municipal Corporations operated by Pusan City Government (PCG) and to increase the degree of cost recovery achieved by the Special Accounts and Municipal Corporations.

Article 2 - Definitions of Terms.

- (1) "Transfers from General Account" (TGA) refers to contributions to the PFMSA from the Pusan City Government (PCG) General Account, to support the activities of the Special Accounts. TGA also includes equity contributions from the General Account to PCG's Municipal Corporations (Special Accounts).
- (2) "Borrowed Funds" are funds borrowed by PCG from foreign governments, international financial institutions, commercial banks or other local financial sources.
- (3) "Temporary Surplus Funds" are funds in excess of the current needs of a Special Account, which may be borrowed and paid back by the PFMSA within the same fiscal year.
- (4) "Surplus Funds" refers to the balance of funds carried forward by the PFMSA at the end of a fiscal year.
- (5) "PFMSA Loan" refers to the lending of money by the PFMSA to a Special Account or Municipal Corporation to finance capital investments.
- (6) "Redemption" means the repayment of loans to the PFMSA by Municipal Corporations.

Article 3 - Establishment and Operation of PFMSA's Board of Directors.

- (1) A Board of Directors shall be established to govern the operations of the PFMSA and to insure the efficient and effective use of the PFMSA.

- (2) The Board of Directors shall determine all policies of PFMSA, including its regulations, the use and mobilization of funds, the scope of beneficiaries and projects, the interest rates and loan conditions, and all important procedures regarding the management and operation of the PFMSA.
- (3) The composition of the Board of Directors and its principles of operation shall be stated in the Enforcement Bylaws.

Article 4 - Management and Operation of the PFMSA. The PFMSA will be managed and operated by the Director of PCG's Budget Bureau.

Article 5 - Use of the Funds of the PFMSA.

- (1) The PFMSA is to be used to assist PCG's Special Accounts and Municipal Corporations to finance capital projects that support cost recovery objectives. The Special Accounts which may be supported by the PFMSA shall be set forth in the Enforcement Bylaws (see part B, below).
- (2) PFMSA loans may be made only for the specific projects and purposes defined in the Enforcement Bylaws.
- (3) The funds provided by PFMSA will finance capital expenditures for projects as stated in the Enforcement Bylaws.

Article 6 - Sources and Applications of Funds.

- (1) The sources of funds of the PFMSA will consist of funds provided by PCG (including TGA, funds redeemed by repayments from Special Accounts, Temporary Surplus Funds, etc., and funds borrowed from public, commercial or international organizations. Surplus funds may be carried over from one fiscal year to the next, but Temporary Surplus Funds should be paid back to the concerned Special Accounts before the end of each fiscal year.
- (2) Unless the Board specifically approves, borrowed funds may not exceed 50% of PFMSA's budget for any fiscal year.
- (3) The funds of the PFMSA can only be used to finance loans to Special Accounts or Corporations, and the repayment of funds borrowed by PFMSA.

Article 7 - Separate Accounting for PFMSA Loans. The Special Accounts or Municipal Corporations which receive loans from PFMSA must keep separate accounts for each loan.

Article 8 - Management of Loans. The Director of PCG's Budget Bureau shall be responsible to the Board of Directors for supervising the use of PFMSA loans in order to ensure their efficient and effective use.

Article 9 - Contingencies. In the event of a contingency, such as the need for additional funds to complete a capital project being financed by a PFMSA loan, the Board shall have the power to authorize an increase in the amount of the loan, provided that the loan as increased still meets all requirements of the Enforcement Bylaws.

B. Enforcement Bylaws for the PFMSA

Article 1 - Purpose. This Enforcement Bylaw sets forth the details for enforcement of the Bylaws of the Pusan Fund Management Special Account (PFMSA).

Article 2 - Coverage.

- (1) Loans from the PFMSA may assist the following Special Accounts and/or Municipal Corporations: Water Works, Housing, Sewerage, Subway, and other Special Accounts or Municipal Corporations which are found acceptable and appropriate by PFMSA's Board of Directors.
- (2) A Special Account will cease to be eligible for participation in the PFMSA if it is abolished or cancelled by PCG.

Article 3 - Nature of the Projects to be Financed by PFMSA. The PFMSA may finance capital expenditures for the following types of projects:

- (1) Project investment which cannot be financed from existing revenues without excessive increases in charges and fees to users.
- (2) Projects which cannot be financed by commercial loans because the period required for repayment is longer than feasible under commercial loans.
- (3) Projects which would enhance the productivity and cost recovery of PCG's Special Accounts.
- (4) Projects which are too large to be financed out of the current revenues of a Special Account.
- (5) Projects which benefit specific users or parts of the total population and where it would be inappropriate to charge the cost to the total population.
- (6) Other projects that meet the objectives and principles set by the Board of Directors in accordance with the provisions of this Bylaw.

Article 4 - Limitation of the PFMSA Loans.

- (1) Unless the Board specifically approves, the PFMSA will not finance more than half of the annual budget of any Special Account or municipal corporation.
- (2) The amount of any PFMSA loan shall not exceed 70% of the total investment cost of the project financed by the loan.
- (3) No more than 50% of the loans budgeted by the PFMSA for a given year may be allocated to a single Special Account or Municipal Corporation.

Article 5 - Scope of PFMSA Funding.

- (1) The use of PFMSA Funds (as mentioned in Article 5, clause 3 of the Bylaws) would not finance operational expenditures, and would be used to finance the capital requirements, in particular new priority investments.

Article 6 - Organization and Operation of PFMSA Board of Directors.

- (1) The Board of Directors of PFMSA shall be made up as follows:

Chairman: the Vice Mayor.

Vice Chairman: the Assistant Mayor for Planning and Management.

Other Members: the Director-General for Finance, the Director-General for Construction, the Director of Budget, and the Director of Planning.

- (2) The operations of the Board shall be set forth in the Management Regulations (see part C, below).

Article 7 - Applications for PFMSA Loans.

- (1) Projects for which any Special Account requests PFMSA support shall be presented to PCG's Budget Bureau, including the information required for their analysis.
- (2) A Project Assessment Report would be prepared by PCG's Investment Management Unit. The Loan Application prepared by the Special Account requesting the loan and the Project Assessment Report would be presented by PCG's Budget Director to the Board for consideration of the proposed loan.
- (3) After the Board approval, the official responsible for the Special Account would present a revised financial plan in accordance with the loan approved by the Board.
- (4) Each Special Account or Municipal Corporation being financed by the PFMSA would present to the Board quarterly reports

regarding the use of the loan and the progress in project implementation.

Article 8 - Management Regulations. The Management Regulations (see part C, below) shall set forth additional details of the operation of the PFMSA.

C. Management Regulations for the PFMSA

Chapter 1 - General.

Article 1 - Objectives. These regulations provide details on the Enforcement Bylaws of the PFMSA.

Chapter 2 - Operation of the Board.

Article 2 - Chairman. The Chairman shall represent the Board and be responsible for the overall operation of the PFMSA.

Article 3 - Vice Chairman. The Vice Chairman shall represent the Board in the event that the Chairman is absent.

Article 4 - Meetings.

- (1) Meetings of the PFMSA shall be called and presided over by the Chairman.
- (2) A quorum for an official meeting of the Board shall be two thirds of its members. In order to be approved, actions of the Board shall require agreement by at least one-half of the members present at an official meeting.
- (3) The Chairman shall vote only in the event of a tie vote of the other members present at an official meeting of the Board.
- (4) All official actions by the Board at its meetings shall be documented and recorded in the Minutes of the meetings.

Article 5 - Management of Board Operations.

- (1) The Director of PCG's Budget Bureau is designated as the Manager of the Board.
- (2) The Manager shall assist the Chairman in the Board activities and will keep the records of meetings.

Chapter 3 - PFMSA Loans.

Article 6 - Interest Rate.

- (1) The interest rate of PFMSA's loans shall be determined as the average weighted cost of amounts provided by PCG and the amounts borrowed by the PFMSA.
- (2) The risk in foreign exchange will be included in the estimated cost of loans from foreign sources.

Article 7 - Repayment of Loans.

- (1) The interest due on any loan would be paid semiannually on June 30 and December 31 of each year.
- (2) The repayment of the principal shall begin upon the completion of the project construction or the grace period set by the Board. The loan repayment period shall not exceed 15 years, including the grace period.
- (3) Within the above limits the Board shall establish the actual grace and repayment periods of each loan.
- (4) The principal due in any year will be paid in two equal installments on June 30 and December 31 of that year.
- (5) The loan from the PFMSA would be disbursed against certificates of payments made or to be made by the Special Accounts or Municipal Corporations in accordance with the terms and conditions set forth in the applicable regulations.

Article 8 - Prepayments and Penalties for Late Payments.

- (1) A Special Account or Municipal Corporation may prepay the total or any part of the interest and principal of a loan in advance of the schedule established by the Board, subject to the approval of the Chairman of the Board.
- (2) Any Special Account or Municipal Corporation which fails to make timely payment of the interest or principal due on a loan shall be charged penalty charges at the interest rate charged by commercial banks.

Chapter 4 - Reports and Audit.

Article 9 - Reporting. The Chairman of the Board may require from the Special Accounts financed by the PFMSA, periodic and annual reports regarding the projects and loans being financed.

Article 10 - Audit. The Chairman of the Board shall appoint official auditors to audit the overall financial status of the amounts borrowed from PFMSA by any Special Account or Municipal Corporation.

Article 11 - Neglect of Duties. The Chairman of the Board will take appropriate action if the officials responsible for loans from PFMSA neglect their duties under the Bylaw, Enforcement Bylaw or Management Regulations.

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PUSAN URBAN MANAGEMENT PROJECT

Assumptions for Financial Projections

Inflation

1. The financial projections assume that local and foreign price increases would be 3% in 1987, 1% between 1988 and 1990, and 3.5% thereafter. The exchange rate for January 1987 is assumed at W 860 per US dollar.

PCG's Investment and Long-Term Financial Plan (LTFP)

2. PCG's Investment Plan (Annex 10) and the LTFP were developed by the appraisal team using computer programs tailored to PCG's organization, revenues and expenditures. Annex 5 shows the financial forecast for all revenues and expenses of the General Account (Tables 1 to 5), as well as monitoring indicators for the GA and the SAs (Tables 6 and 7). Annex 6 shows a summary for all the SAs, and the financial forecast for the main SAs (Tables 1 to 6). The complete financial projections, available in the Project File, include some 40 pages of tables, providing full details of the assumptions used and the projections for the GA and each SA. Particularly important are the debt calculation tables, since several SAs, particularly the Subway and Water Supply SAs, have a large number of loans, many in foreign currencies. To simplify the explanation, the main assumptions used for the financial projections are shown in Table 1.

Revenues and Expenses of the General Account

3. PCG uses government-mandated cash accounting which is satisfactory. Detailed statistics and annual publications facilitate a comparison of previous and present performance. The main revenues are taxes based on property transactions (acquisition, registration). Tax rates are set nationally by MOHA. Tax collection is very good, averaging 92% and reaching 97% for taxes other than on vehicles. Lack of industrial and commercial space has inhibited the city's development and reduced tax increases which previously exceeded 11% p.a. in real terms. Government contributions, mainly through shared taxes and contributions to special projects, averaged about 7% of the budget. Personnel expenses represent 20% of the total budget and 70% of recurrent expenditures. About 230 of the total staff of 13,000 are central government employees. The number of employees is expected to continue to be 3.6 per thousand inhabitants, and unit salaries are expected to increase at about 3% p.a. in real terms. Subsidies to the Subway SA are estimated at about W 20 billion per year, and will have to continue at least until 1990. However, the establishment of the PFMSA will provide an opportunity to convert some of these subsidies to long-term loans. Capital expenditures are based on the Investment Plan (Annex 10).

Revenues and Expenses of the Special Accounts

4. Financial projections for the SAs, and details of the assumptions for projections of each account are available in the Project File. The SAs prepare annual financial statements based on accrual accounting; for consistency these results have been presented on a cash basis. The main assumptions are for the Subway SA and include the continuation of government and PCG contributions of about W 20 billion each p.a. until 1990. The average subway fare is expected to increase by about 10% in 1987 because a higher percentage of passengers would take longer rides, paying a higher rate. A fare increase of about 20% is assumed in 1988. Higher fare increases would be possible after a government study on bus fares is completed, which will allow raising both subway and bus fares. Refinancing of some of the bond loans in Yen would be needed in 1987, 1989 and 1990 (Y 5 billion each), and Y 15 billion in 1991. This is considered feasible given the good credit rating of Korea and the guarantee of the Foreign Exchange Bank.

5. Financing Plan. The overall financing plan (Annex 5, Table 5) includes the proposed Bank loan for 15 years, including a grace period of 3 years, at the standard variable rate. An additional loan of about \$160 million has been assumed between 1988-90. Without this loan, PCG's investments, already heavily curtailed, would have to be reduced by an additional 20%.

PUSAN URBAN MANAGEMENT PROJECT

ANNEX 8 - Page 3

TABLE 1 - BASIC ASSUMPTIONS FOR FINANCIAL PROJECTIONS

	1983	1984	1985	1986	1987	1988	1989	1990	1991
	-----	Actual	-----						
Pusan's Population-(1000)	3395	3495	3517	3611	3709	3808	3900	3989	4077
Population Growth Rate		2.95%	0.62%	2.69%	2.69%	2.69%	2.40%	2.30%	2.20%
Persons per Household	4.44	4.35	4.19	4.13	4.08	4.02	3.97	3.92	3.86
Number of Households (1000)	765	803	840	874	910	947	983	1019	1055
% Increase # Households		4.9%	4.6%	4.1%	4.1%	4.1%	3.8%	3.7%	3.6%
% Population with Water Supply	90.8%	92.1%	93.0%	93.0%	94.4%	95.2%	96.1%	97.0%	98.0%
Population with Water Supply (1000)	3084	3218	3271	3360	3501	3626	3748	3870	3996
% Increase in Water Revenues		15.7%	7.1%	5.3%	15.0%	12.0%	15.6%	15.3%	13.4%
% Population with Sewerage			58.0%	60.0%	62.0%	64.0%	66.0%	68.0%	70.0%
Population with Sewerage (1000)			2040	2167	2299	2437	2574	2713	2854
% Increase Sewerage Coverage				6.2%	6.1%	6.0%	5.6%	5.4%	5.2%
TOTAL STAFF (NATIONAL & LOCAL)	11082	12477	12648	12982	13326	13678	14000	14315	14624
# National Gov. Employees/1000 pers	0.34	0.35	0.34	0.34	0.34	0.34	0.34	0.34	0.34
# National Government Employees	1143	1220	1194	1226	1259	1293	1324	1354	1384
# Employees Paid G/A /1000 persons	2.93	3.22	3.26	3.26	3.25	3.25	3.25	3.25	3.25
# Employees Paid by General Account	9939	11257	11454	11756	12066	12385	12676	12961	13239
Local Government Employees	1008	1085	1062						
Agencies Employees	2247	3157	3183						
Fire Station	1519	1645	1748						
Gu Office Employees	2550	2589	2661						
Dong Office Employees	2615	2781	2800						
GRP Real Growth Rate			7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%
Consumer Price Annual Increase	3.38%	2.30%	2.50%	2.60%	3.00%	1.00%	1.00%	1.00%	3.50%
Consumer Price Index (1985=1.0)	0.954	0.976	1.000	1.026	1.057	1.067	1.078	1.089	1.127
Foreign Inflation			1.0%	5.0%	3.0%	1.0%	1.0%	1.0%	3.5%
EXCHANGE RATES:									
Dollar, 1US\$ = Won	775.75	805.98	870.02	860.00	860.00	860.00	860.00	860.00	860.00
DM 1DM= Won			300.01	409.52	419.51	419.51	419.51	419.51	419.51
Yen, 1Y\$ = Won	3.27	3.39	3.65	5.42	5.73	5.73	5.73	5.73	5.73
French Franc 1FF\$= Won	101.79	92.23	96.83	125.22	124.82	124.82	124.82	124.82	124.82
Sweeden 1S\$= Won	101.18	97.44	101.12	121.77	124.64	124.64	124.64	124.64	124.64
Average Libor Interest Rate			9.1%	8.1%	8.0%	8.0%	7.0%	7.0%	7.0%
Japan LTPR			8.0%	7.0%	6.5%	6.0%	6.0%	6.0%	6.0%

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PUSAN URBAN MANAGEMENT PROJECT

DEVELOPMENT STRATEGY AND PROGRAM OF INVESTMENTS

Introduction

1. Pusan, the second largest city in Korea, is located in a physically constrained site 2 to 3 km wide, sandwiched between steep mountains and the sea. Most of the city's economic activity takes place along a north-south corridor; a subsidiary east-west corridor meets the north-south corridor at Seomyeon, creating a crucifix shaped development area. The road network is extremely limited and has limited potential for expansion. Despite this physical environment and because of the city's key economic importance, the population almost doubled between 1970 and 1985 from 1.8 million to 3.5 million and the number of vehicles tripled from 31,254 to about 106,000. Gross population densities have increased from 4,930 persons per sq km in 1970 to 7,700 persons per sq km in 1982. Traffic in the city has increased by an annual average rate of about 14% since the 1970s and traffic problems have become severe, with chronic congestion, inadequate numbers of buses and taxis, and increasing traffic accidents. Demand for transportation is rising faster than the per capita growth in GRP, and even short-term projections of demand indicate a total incapacity of the existing system to provide adequate transport services. The major problems in terms of urban infrastructure are as follows:

- (a) The existing road network cannot cope with current traffic levels. The lack of roads is indicated by the city's road-to-land-area ratio of 10.6%, as opposed to 15.3% in Seoul, 14.6% in Incheon, and 12.7% in Taegu. Furthermore, only 53% of the roads are paved, compared to more than 70% in Seoul and Incheon. There is also an excessive concentration of traffic along the north-south axis (City Hall - Seomyeon) which will need to be dispersed. Parking problems in the city have been exacerbated by the rapid increase of vehicles, at a rate of 14% per year.
- (b) In the narrow central business district (CBD), land use is inefficient, with a mix of labor-intensive industries, port facilities, housing, commercial areas, military facilities and the railroad. Many of the industries will need to be relocated to properly zoned industrial areas. There is also a mixture of housing within the industrial zone in the Puk Gu (Sasang) area. Environmental conditions in the CBD area, particularly in terms of water and air pollution, have also deteriorated. If the city is to accommodate a projected population of 4.2 million in 1995 and 4.8 million in 2001, its land use will have to be improved. Some of this would be achieved by the completion of the development of residential areas in the outer counties and of the industrial area in

the reclaimed area in Janglim next to the Nakdong Barrage.

- (c) Open green areas in Pusan are very limited. Parks take up only 12.3 sq km of the urban area of 132.8 sq km. This is much less than the 33.0 sq km considered desirable to maintain reasonably tolerable environmental conditions in terms of air and noise pollution.

Growth Trends and Urban Plan

2. Pusan's basic directions of growth can be seen in population changes among the city's five major areas: Central (Chung-Gu, So-Gu, Dong-Gu, Yeong-do-Gu, and Pusan-Jin-Gu), North (Puk-Gu), West (Saha-Gu), South (Nam-Gu and Haeundae-Gu), and Tongrae-Gu. Table 1 shows that since 1975 the population has been relatively static in the Central area (1.25 million in 1975 and 1.275 million in 1984) while in the South, North, West and Tongrae-Gu the population has grown from 1.19 million in 1974 to 2.2 million in 1984, indicating an increased need for urban infrastructure outside of the Central area.

Table 1 - Status of Population by Settlement Areas a]

	1975			1980			1984		
Loca- tion	Popula- tion	Gross Density	Net Density	Popula- tion	Gross Density	Net Density	Popula- tion	Gross Density	Net Density
Total	2428	190	353	3157	246	457	3495	338	483
Central	1250	360	606	1269	366	615	1275	428	612
South	490	158	268	664	213	357	743	261	373
Tongrae	430	152	230	676	239	368	804	300	429
North	126	66	179	338	177	481	414	345	494
West	132	86	317	210	137	505	259	417	597

a] Population in thousand persons, density in hundred persons per ha.
Source: Basic Regional Development Plan

3. Pusan's basic urban development strategy has been studied by consultants (Korea Advanced Institute of Science and Technology-KAIST) and the recommendations arising from the study have been included in the "Pusan City Basic Plan for Regional Development 1987-1991." The strategies proposed are (a) to improve the CBD area by rehabilitating the existing area, relocating schools, industry, and the railroad out of the CBD, and zoning more of this area for commercial activity; (b) improve public transportation (the subway and bus systems) and the highway network; (c) strengthen housing development in the green areas; (d) develop the Janglim industrial estate on reclaimed land and relocate some industries to this estate; and (e) establish more parks and improve environmental conditions by

land use control. The Regional Development Plan includes an estimate of various types of urban space requirements needed for the population and economic activity expected in 1996 (see Table 2).

Table : Pusan City Urban Space Requirement
(sq km)

<u>Type</u>	<u>1984</u>	<u>1996</u>	<u>Change</u>
Residential	86.5	97.4	10.9
Commercial	14.6	16.3	1.7
Industrial	31.8	37.4	5.6
Green Track	336.7	321.4	-15.3
Undesignated	0.0	96.6	96.6
Total	<u>469.6</u>	<u>569.1</u>	<u>99.5</u>

Most of the additional land needed will have to be found in the Haeundae, Tongnae and Nam areas which will therefore require significantly expanded urban facilities.

Investment Program

4. The General Account (GA) investment program for the four-year period 1987-91 provides for balanced investments in priority projects in all the subsectors financed from this Account and follows the basic regional master plan for those years. Priority has been given to projects with immediate benefits and to completing ongoing projects and starting urgently needed new projects including (a) expansion of smaller roads, road paving, construction of access roads, etc.; (b) major highway investments designed to alleviate the city's serious traffic problems; (c) construction of sewage treatment plants and first-stage interceptor sewers in the city's three main catchments; (d) landfill sites for solid waste disposal and (e) construction of a wholesale market.

5. Investments scheduled for the project period (1987-89) are mainly as follows:

- (a) Highway Program. The major highway investments planned are construction of a second expressway and the Daeyoungro-Chungjangro roads. Both these highways will help disperse commercial vehicular traffic away from the CBD area and the port to highways to Masan. The second expressway, which would traverse a heavily trafficked route, would help reduce commercial traffic on the city's east-west highways. A total of W 85.85 billion is to be spent on highway construction.

- (b) Roads and Transportation. A major portion of the proposed investments would go to the transportation sector. The city's transport policy objectives are: (i) to maximize the impact of the subway system by carrying out a major reorganization of bus routes to feed into the subway stations, and by constructing bus and taxi terminals and parking facilities at selected subway stations; and (ii) to reduce traffic congestion and improve the efficiency of the road network by carrying out comprehensive traffic management improvements along the main transport corridors and in the CBD, and to undertake high priority investments to increase the capacity of the principal road network. A large number of smaller projects would expand roads (6m to 30m width) to make urban services more accessible to the low-income areas. Many small road and pavement improvement and extension projects have also been included in the program. To maximize benefits from existing and planned investments, relatively small investments under the Traffic System Management (TSM) program have been included at an estimated cost of about W 13.6 billion. And to maximize benefits from the subway, transit centers for bus-subway integration would be constructed at a cost of about W 4.0 billion. A total of W 15.62 billion would be spent on road and TSM investments.
- (c) Sewerage and Drainage Investments. Sewerage investments are planned for the three catchment areas of Janglim, Suyeong and Yongho, which by 1995 are expected to serve 72% of the city's population. Most of the first-phase investments will be for 35 km of interceptors and three treatment plants having a combined capacity of 770,000 cu m per day. The city expects to spend additional funds from its own resources to complete interceptor sewers to make the treatment plants effective. During the review of these investments during project appraisal, in particular the Janglim sewerage area it was recommended to invest in interceptors rather than in treatment works in order to have an immediate impact on water pollution control. PCG has delayed some of the investments in the new treatment works until interceptors are constructed and this postponement will result in reduced investments in sewerage. Drainage investments are mainly in stormwater drains and small river protection works costing about W 5-7 billion. A total of W 104.36 billion is to be spent on this component.
- (d) Solid Waste Disposal. Waste disposal is handled by the city's Bureau for Health and Social Affairs. The present solid waste disposal site at Hwamyung will be filled up by 1987 and a 61.2 ha landfill site has been set aside in Haeundae Gu which will fulfill the needs of the city till 1991. The city currently produces 5,600 tons per day of waste which will increase to about 7,800 tons per day in 1988. Most of this will be handled at Haeundae Site. Investments in an incinerator to dispose of 250 tons of

toxic wastes per day (5% of total solid waste) has also been planned as has night soil disposal by dumping into the sea. About W 12.0 billion is expected to be spent on landfill development, W 2.5 billion for night soil dumping and W 17.4 billion for the incinerator.

- (e) Wholesale Market. The city currently has 12 private and 6 cooperative retail markets which trade 151 tons of fruits and vegetables per day. About 10 of the markets are on the west side of the city while another 8 are on the east side. At present, all produce is distributed to the individual markets from one central market, which is very inefficient because heavy trucks have to travel through the city center to reach the various markets. To make distribution more efficient, two wholesale markets are planned: one on the west side and one on the east. The west side market will be located near the Sasang area and will be constructed between 1987 and 1991. The total cost of the market is W 45 billion, including W 11 billion for land.

6. The total GA investment program during the project period is summarized in Table 3.

Table 3: Pusan's Total General Account Investment Plan 1987-89
(Won billion)

	<u>Total</u>	<u>%</u>
Major highways	85.85	19.6
Roads and bridges & small projects	135.62	26.4
Sewerage and drainage	104.36	23.8
Industrial and commercial	33.19	7.6
Disaster prevention	9.37	2.1
Park and Saemaul movement	9.81	2.2
Social welfare & solid waste collection	39.12	8.9
Cultural and sports facilities	22.01	5.0
Civil defense and fire protection	6.94	1.6
General administration and others	12.48	2.8
TOTAL	438.76	100.0

Details of sector expenditures and disbursements and their breakdown by civil works, land acquisition and other items are shown in Annex 5. The costs of capital works in 1987, 1988 and 1989 are expected to total W 120 billion, W 167 billion and W 172 billion, respectively. Over the three years, W 98.1 billion would be spent on land, W 268.8 billion on civil works and W 67.5 million on equipment and materials.

7. The GA investment program is well-balanced and the investments included would produce high economic returns. Most of the large projects have been assessed by using formal economic evaluation procedures. Typical internal rates of return (IRR) are as follows:

Table 4: Rates of Return for Projects, 1987-89

<u>Item</u>	<u>IRR</u>	<u>% of Program</u>
Major Highways	15-30 % *	14
Minor Roads and TSM	19-40 % *	42
Transit Centers	16-35 % *	3
Waste Disposal	10-12 % +	4
Wholesale Market	15 % +	5
Total (weighted)	24 %	68

* As calculated by KAIST, August 1984, and estimated by Bank.

The Project

8. The Bank loan would be directed toward small, high-priority projects, specifically directed to low-income areas. For 1987-89, priority investments would include access roads, expansion of minor roads, road paving, drainage improvements and others. A tentative program of small projects for the various Gu in 1987-89 is shown in Table 5. Out of a total planned expenditure of W 153.7 billion (base cost) for small projects, road expansion/access roads/pavement works would amount to W 107.4 billion (69.9%), sewerage/drainage would amount to W 12.9 billion (8.4%), slope protection and safety measures W 11.4 billion (7.5%), and expenditure on parks community facilities W 11.4 billion (7.5%) offices and TSM, transit centers, and consultant services costing is W 10.6 billion. The Project also includes a Transportation System Management (TSM) and Transit Centers construction component with supporting technical assistance. The project costs envisaged for these components is W 167 billion (Tables 5 and 6). Most of these projects would have both a tremendous economic and social impact. Access roads which form almost 75% of all small projects open up the low-income areas to urban services such as water, sewerage, solid waste collection, postal services, etc. These roads also permit access by firetrucks, an important benefit considering that as much as \$4.0 million worth of fire damage occurs in Pusan each year.

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PUSAN URBAN MANAGEMENT PROJECT

TABLE 5 - PROJECT COST IN BILLION WON a)

(Billion Won)

	Local	Foreign	Total	% Base Cost	% Foreign	1987	1988	1989
Roads and Highways	79.46	27.92	107.38	69.9%	26.0%	27.37	42.75	37.27
Drainage, Sewerage and Flood Control	9.11	3.78	12.89	8.4%	29.3%	3.28	5.13	4.47
Embankment and Slope Protection	8.82	2.63	11.45	7.5%	23.0%	2.92	4.56	3.98
Community Facilities	9.16	2.29	11.45	7.5%	20.0%	2.92	4.56	3.98
Transportation System Management	4.14	1.86	6.00	3.9%	31.0%	1.50	2.40	2.10
Transit Centers	2.77	1.03	3.80	2.5%	27.0%	0.90	1.50	1.40
TSM Technical Assistance	0.64	0.11	0.75	0.5%	15.0%	0.25	0.50	0.00
Base Cost, March 1987 Prices	114.11	39.62	153.73	100.0%	25.8%	39.14	61.40	53.19
Physical Contingencies	5.71	1.98	7.69	5.0%	25.8%	1.96	3.07	2.66
Price Contingencies	4.03	1.40	5.42	3.3%	25.8%	0.62	2.27	2.54
TOTAL COST	123.84	43.00	166.84	108.5%	25.8%	41.71	66.74	58.39

TABLE 6 - PROJECT COST IN MILLION US DOLLARS

(Million Dollars)

	Local	Foreign	Total	% Base Cost	% Foreign	1987	1988	1989
Roads and Highways	92.40	32.47	124.87	69.9%	26.0%	31.82	49.71	43.34
Drainage, Sewerage and Flood Control	10.59	4.39	14.98	8.4%	29.3%	3.82	5.97	5.20
Embankment and Slope Protection	10.26	3.06	13.32	7.5%	23.0%	3.39	5.30	4.62
Community Facilities	10.66	2.66	13.32	7.5%	20.0%	3.39	5.30	4.62
Transportation System Management	4.81	2.16	6.98	3.9%	31.0%	1.74	2.79	2.44
Transit Centers	3.23	1.19	4.42	2.5%	27.0%	1.05	1.74	1.63
TSM Technical Assistance	0.74	0.13	0.87	0.5%	15.0%	0.29	0.58	0.00
Base Cost, March 1987 Prices	132.69	46.07	178.76	100.0%	25.8%	45.51	71.40	61.85
Physical Contingencies	6.63	2.30	8.94	5.0%	25.8%	2.28	3.57	3.09
Price Contingencies	4.68	1.63	6.31	3.5%	25.8%	0.72	2.64	2.96
TOTAL COST	144.00	50.00	194.00	108.5%	25.8%	48.50	77.60	67.90

a) Due to rounding, the last digit in totals may appear different than the sum of columns

04-Mar-87

PUSAN CITY GOVERNMENT INVESTMENT PLAN FOR THE GENERAL ACCOUNT (1987-90)

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TOTAL INVESTMENT :

[illegible]

PUSAN URBAN MANAGEMENT PROJECT

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TABLE 1 - MONITORING INDICATORS FOR PUSAN CITY GOVERNMENT

BILL. WON

	1983	1984	1985	1986	1987	1988	1989	1990	1991
	----- Actual -----								
TOTAL GENERAL & SPECIAL ACCOUNTS)									
Total Budgeted Revenues-W Billion	363.5	542.7	532.9	562.0	662.9	612.4	581.0	611.2	716.3
Self-raised Revenues (Excludes Grants and Borrowing) W Billion	227.8	304.6	334.7	379.5	413.3	429.0	450.7	495.2	510.5
Total Borrowing W Billion	122.6	222.5	175.9	160.8	204.6	135.7	79.7	62.4	147.4
Cash Surplus (deficit) W Billion		159.8	138.4	41.0	103.8	116.4	83.3	70.5	97.7
Per Capita Total Budget-1985 Won	112	159	152	152	169	151	138	141	156
Self-raised Revenues/Capita 1985-W	70	89	95	102	105	106	107	114	111
% Self-raised Revenues on Budget	63%	56%	63%	68%	62%	70%	78%	81%	71%
Subsidies to SA on GA's Expenditures		9.1%	6.8%	8.6%	10.0%	5.6%	5.4%	5.4%	3.7%
GA & SA Surplus (Deficit) on Total Budget		29.5%	26.0%	7.3%	15.7%	19.0%	14.3%	11.5%	13.6%
SA Budget on Total GA & SA Budget	52%	60%	54%	48%	46%	38%	37%	39%	42%
INDICATORS FOR GENERAL ACCOUNT									
Total Budgeted Revenues-Billion W	173.2	215.8	245.4	291.0	357.2	377.0	366.4	373.3	415.3
Total Taxes - Billion W	94.3	102.8	108.7	124.1	129.6	139.1	149.6	161.1	177.7
Real Estate Taxes (Acquisition, Registration, Property and City Planning) on Taxes	72.8%	71.1%	71.0%	72.5%	70.9%	71.0%	71.3%	71.5%	71.8%
% Property Taxes on Taxes	17.0%	15.5%	15.5%	16.0%	15.9%	15.9%	16.0%	16.3%	16.5%
% Taxes on Budget	74.8%	67.0%	62.4%	58.8%	51.2%	51.9%	57.3%	60.3%	59.6%
% Self-raised Revenues on Budget	92.3%	91.0%	90.5%	86.7%	74.2%	73.1%	77.4%	81.8%	80.6%
% Government Grants on Budget	7.6%	7.3%	9.1%	7.5%	12.6%	12.7%	13.8%	14.4%	14.1%
Per Capita Taxes (1985 Won)	40002	42383	43537	46212	46649	48160	49938	51845	53881
% Real Increase in Per Capita Taxes		6.0%	2.7%	6.1%	0.9%	3.2%	3.7%	3.8%	3.9%
Per Capita Budget (1985 Won)	53499	63275	69771	78548	91133	92759	87164	85930	90389
Locally Approved Tax per Capita (1	14153	14278	14436	15363	15938	16462	17128	17919	18769
GENERAL ACCOUNT EXPENSES									
Total Expenditures Billion W		214.9	241.7	289.3	299.3	351.6	365.9	368.3	398.5
Total Expenditures (Billion W 1985)		220.3	241.7	282.0	283.2	329.4	339.4	338.3	353.7
% Real Increase in Expenditures			9.7%	16.7%	0.4%	16.3%	3.0%	-0.3%	4.5%
Expenditures/Inhabitant-Thousand 1985 Won		63.0	68.7	78.1	76.4	86.5	87.0	84.8	86.7
Total Staff (National and Local)	11082	12477	12648	12982	13326	13678	14000	14315	14624
# Staff paid by General Account	9939	11257	11454	11756	12066	12385	12676	12961	13239
Total Staff per 1000 Inhabitants	3.26	3.57	3.60	3.59	3.59	3.59	3.59	3.59	3.59
Avg. Salary Million/Employee/Year		4.07	4.43	5.20	5.69	6.04	6.44	6.75	7.24
Personnel/(Personnel & Other Adm.Expenses)		69.8%	71.9%	69.8%	72.5%	73.2%	73.9%	74.3%	74.6%
Debt Service on Total Expenditures		2.3%	0.5%	0.6%	1.2%	1.8%	2.5%	2.7%	4.5%
Subsidies to SAs on Total Expenditures		14.2%	14.9%	15.0%	15.4%	11.5%	10.2%	9.6%	7.8%
GA's Capital Expenditures- Billion Won		96.0	115.9	131.3	120.3	166.6	171.8	166.6	180.0
GA's Capital Expenditures-Billion 1985 Won		98.4	115.9	127.9	113.9	156.1	159.4	153.0	159.7
Capital on Total GA Expenditures		44.7%	48.0%	45.4%	40.2%	47.4%	47.0%	45.2%	45.2%
Per Capita Capital Expenditures (1985 Won)		28152	32956	35428	30703	40985	40876	38362	39176
Transportation on GA's Capital Expend.		33.5%	45.6%	35.1%	49.9%	47.4%	48.0%	47.4%	20.4%

PUSAN URBAN MANAGEMENT PROJECT

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TABLE 2 - MONITORING INDICATORS FOR SPECIAL ACCOUNTS

BILLION

	1983	1984	1985	1986	1987	1988	1989	1990	1991
Pusan's Population-(1000)	3395	3495	3517	3611	3709	3808	3900	3989	4077
Population Growth Rate		2.9%	0.6%	2.7%	2.7%	2.7%	2.4%	2.3%	2.2%
CONSOLIDATED RESULTS SPECIAL ACCOUNTS:									
Operating Revenues S/A		53.3	57.6	63.3	78.0	92.7	106.0	117.7	136.8
Public Enterprises on S/A Revenues		88.7%	89.4%	90.1%	91.5%	92.5%	93.1%	93.6%	94.2%
Operating Expenses on Revenues		60.1%	66.7%	77.3%	69.9%	63.2%	57.9%	54.5%	50.7%
Total Capital Investments-Billion Won	272.6	205.2	201.7	112.7	45.4	43.7	37.8	37.6	
Debt Service Coverage		1.8	0.8	0.5	0.5	0.5	0.6	0.7	0.5
SUBWAY SPECIAL ACCOUNT									
Ridership 1000 Trips/day				79.3	161.4	220.0	260.0	273.0	286.7
Ridership to cover Operation & Interest				837.3	1018.5	955.1	949.5	912.3	684.3
Ridership Forecasted Feasibility Study-1000/day				130.0	229.0	429.0	542.0	569.1	597.6
Operating Expenses per Ride				383	214	174	158	157	160
Operation & Interest per Ride				1939	1262	1042	876	802	716
Fare (Won per trip)				184	200	240	240	240	300
% Actual vs Forecasted Ridership				61%	70%	51%	48%	48%	48%
Fare Increase to cover Operation				108%	7%	-27%	-34%	-35%	-47%
Fare Increase to pay Operation & Interest				1056%	601%	413%	348%	318%	227%
Subway Revenues - Billion Won				5.3	12.4	20.2	23.9	25.1	33.0
Subway Operating Expenses-Billion Won				11.1	12.6	14.0	15.0	15.6	16.7
Operation & Interest-Billion Won				56.1	74.4	83.7	83.2	79.9	74.9
Operation & Debt Service-Billion Won				110.2	128.7	116.3	128.6	133.1	157.9
WATER SUPPLY SPECIAL ACCOUNT									
% Population with Water Supply	90.8%	92.1%	93.0%	93.5%	94.4%	95.2%	96.1%	97.0%	98.0%
Water Sold (liters/capita/day)	167	170	176	180	187	195	202	208	215
Water Sold-Million Tons per year	188.3	200.2	209.9	221.0	239.5	257.9	275.9	294.3	313.0
Water Produced-Million Tons/Year	313.871	321.443	341.119	347.724	399.092	429.832	437.962	452.781	481.538
Peak Production on Prod.Capacity	104.6%	107.2%	113.7%	73.0%	83.8%	90.3%	69.0%	71.3%	75.9%
% Unaccounted-for Water	40.0%	37.7%	38.5%	36.4%	40.0%	40.0%	37.0%	35.0%	35.0%
Average Tariff W/ton	169.7	184.7	188.8	188.8	200.3	208.3	225.1	243.3	259.4
% Tariff Increase In Current Prices		8.8%	2.2%	0.0%	6.1%	4.0%	8.1%	8.1%	6.6%
# Staff per 1000 Connections	6.0	5.8	5.7	6.1	6.0	5.9	5.8	5.7	5.6
Rate of Return on Net Fixed Assets		10.9%	4.9%	2.5%	2.7%	3.3%	5.3%	7.4%	9.1%
Capital Expenditures-Billion Won	25.977	39.452	31.313	35.333	45.332	20.834	21.200	16.200	16.200
% Self-Financing of Investments	123%	22%	13%	15%	-1%	-77%	35%	72%	104%
HOUSING SPECIAL ACCOUNT									
Operation Expenses on Operat. Revenues		79.1%	86.2%	87.2%	83.6%	83.7%	83.9%	84.0%	84.1%
Borrowing on Budget		63.5%	24.5%	14.0%	14.4%	14.9%	15.3%	16.1%	18.5%
Capital Expenditures-Billion Won		19.5	10.3	10.1	13.8	12.9	11.0	9.9	9.5
Operational Expenses-Billion Won		6.9	6.9	7.3	7.6	8.1	8.8	9.5	10.4
Operational Revenues-Billion Won		8.8	8.0	8.4	9.1	9.7	10.4	11.3	12.4
Debt Service - Billion Won		3.5	4.6	4.6	4.9	5.0	5.5	5.7	9.3

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PUSAN URBAN MANAGEMENT PROJECT
IMPLEMENTATION SCHEDULE

(A) KEY IMPLEMENTATION DATES FOR INSTITUTION ACTIONS:

COMPONENT	SCHEDULED DATE
o Approval of PSIDP.	Done
o Establish Traffic Planning Division.	Done
o Establish Investment Management Unit and Regional Development Division for strategic planning and project review.	12/31/1987
o Establish Bureau of Transportation.	12/31/1987
o Long-term Financial and Investment Yearly Plans, to be updated semiannually.	
o Introduce microcomputers to the 1987 Planning and Management Bureau	
o Study of a Pusan Fund Management Special Account.	12/31/1987
o Set up an integrated Water and Sewerage Bureau.	12/31/1988

(B) PHYSICAL IMPLEMENTATION

	UNIT	# Units	Base Cost	% of 1987 Total	1988	1989
		a)	Mill.\$			
Roads and Highways	Subproject	192	124.9	70	68	69
Drainage and Sewerage	Subproject	48	15.0	8	16	17
Embankment & Slope Protection	Subproject	49	13.3	8	15	18
Community Facilities	Subproject	40	13.3	7	12	15
TSM	Corridors	(6)	7.0	4	2	2
Transit Centers	Subproject	2	4.4	2	1	1
Technical Assistance	Man-months	(102)	0.9	1	30	72
TOTAL			331	178.8	100	

a] The project would include many small subprojects. This table includes those with a unit cost over \$0.4 million.

Annex 12

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PUSAN URBAN MANAGEMENT PROJECT

DISBURSEMENT SCHEDULE
(\$ Million)

Bank Fiscal Year	Year and Semester Ending	-- DISBURSEMENTS --		--- DISBURSEMENT PROFILE ---		
		Semester	Cumulative	Project	Korea (General)	Korea (IDF)
1987	30-Jun-87	0.0	0.0	0.0%	2.0%	1.0%
1988	31-Dec-87 1]	6.0	6.0	12.0%	7.0%	9.0%
	30-Jun-88	7.0	13.0	26.0%	17.0%	26.0%
1989	31-Dec-88	8.0	21.0	42.0%	31.0%	46.0%
	30-Jun-89	8.0	29.0	58.0%	47.0%	67.0%
1990	31-Dec-89	10.0	39.0	78.0%	62.0%	83.0%
	30-Jun-90	8.0	47.0	94.0%	74.0%	94.0%
1991	31-Dec-90	3.0	50.0	100.0%	85.0%	100.0%

1] Represents the initial disbursement of \$6 million for the Special Account.

KOREA

PUSAN URBAN MANAGEMENT PROJECT

Terms of Reference for Technical Assistance in Urban Transportation

Introduction

1. Because of the growing importance of urban transport and the increasing financial demands that this sector is making on the municipal budget, Pusan City Government proposes to strengthen its technical capacity in this area by creating a Traffic Planning Division which will be responsible to the new Bureau of Transportation and Tourism. The proposed Division will comprise three sections: Transportation Investment Planning, Traffic and Transportation Engineering, and Public Transport Management. The roles of these three sections are described briefly below:

Section	Role
Transportation Investment Planning	- Medium- and long-range planning and project evaluation.
Traffic and Transport Engineering	- Short-range planning, design and implementation.
Public Transport Management	- Planning, management and operations.

Objectives

2. Because of the importance attached to the work of the new Division and the difficulty of obtaining staff with the necessary technical skills, it is proposed to strengthen the Traffic Planning Division through a technical assistance contract. The purpose of these terms of reference is to define the scope of this contract and the qualifications, skills and duties of the staff to be provided. It is the City Government's intention to replace the hired experts with permanent full-time staff. To this end, a vigorous program of staff training is proposed, part of which will be implemented under the technical assistance contract.

3. The technical assistance contract would involve four main tasks:

- (i) technical support to the three sections of the new Traffic Planning Division;
- (ii) preparation of manuals and guidelines for:
 - traffic impact analysis
 - road feasibility studies and project evaluation
 - TSM planning and implementation;
- (iii) implementation studies for bus reorganization and bus/subway integration; and

- (iv) training of Pusan City officials and traffic police.

Scope of Work

4. Technical Support: The technical assistance contract would involve five experts: a Transportation Planner, a Transport Economist, two TSM Engineers, and a Public Transport Planner. The timing of the proposed interventions by the experts is shown in Appendix 1. A description of the qualifications and duties of the five experts is given in paragraph 8 below.

5. Preparation of Manuals: This task is one of the most important in that it will provide the Traffic Planning Division with a series of technical guidelines which can be used after the departure of the experts. Guidelines will be produced in three important areas:

(a) Project Evaluation - Guidelines and criteria for the selection of projects, particularly in the roads sector. For larger projects guidelines for economic, environmental, financial and operational evaluation should be prepared. This will be particularly important for the preparation of the annual transport investment plan which would become a legal requirement during 1987.

(b) TSM Planning - Planning and design guidelines will be prepared for traffic management, traffic engineering, parking, public transport priority measures, signing and marking, traffic signals and safety improvements.

(c) Traffic Impact Analysis - This type of analysis will become a requirement for all major transport infrastructure investments requiring government support. Although guidelines are under preparation by Government, it will take some time for the concepts and techniques to become institutionalized. The experts will provide guidance to the Division on the implementation of these guidelines.

6. Bus/Subway Integration: With completion of the main section of Line 1 of the subway in May 1987, it will become increasingly urgent to give consideration to the reorganization of the bus system in order to maximize the overall efficiency of the public transport system and subway revenues. Proposals for rationalizing bus routes should be evaluated and preparations made for their implementation as soon as possible. Consideration should also be given to the construction of bus/taxi terminals at key subway stations.

7. Training: The proposed training courses would be of one to two weeks duration and would involve staff from the following bureaus and agencies; Transportation and Tourism, Construction (Road Division), Urban Planning, Planning and Management, Subway, and Traffic Police. The courses would be of one- to two-weeks duration. Topics to be covered would include Project Planning and Evaluation, TSM Planning and Engineering, Transportation Planning, Public

Transport Planning, Traffic Engineering, and Traffic Safety. Written documentation would be provided with each course. Full use would be made of visual aids to illustrate the lectures and provide insights into traffic and transport planning methods from overseas.

Duties of Experts

8. The experts proposed should have a minimum of five years experience in their respective fields. Their duties will be as follows:

<u>Position</u>	Transportation Planner
Assignment	Transportation Investment Planning Section
Duration	24 months
Duties	<p>To assist the section chief in all project planning and project evaluation activities.</p> <p>To prepare guidelines and manuals for project evaluation and traffic impact analysis.</p> <p>To develop a comprehensive transport policy encompassing roads, subways, buses, taxis, pedestrians and parking.</p> <p>To prepare and carry out training activities in transportation planning, project evaluation and traffic impact analysis.</p> <p>To develop computer applications for transport planning and implement a comprehensive program of traffic monitoring and data collection.</p>
<u>Position</u>	Transport Economist
Assignment	Transportation Investment Planning Section
Duration	12 months
Duties	To assist the section chief and transportation planner with the preparation of guidelines for project evaluation, training activities and the introduction of computer analysis for economic evaluation.
<u>Position</u>	TSM Engineers
Assignment	Traffic and Transportation Engineering Section
Duration	24 months and 18 months

Duties

To assist the section chief with the design and implementation of the first two-year program of TSM and safety measures for four transport corridors and two CBD areas.

To assist the transportation planner with the preparation of guidelines for traffic impact analysis.

To prepare and carry out training activities in traffic impact analysis, traffic management, traffic engineering, TSM planning and engineering, and traffic safety.

To prepare detailed plans for bus/subway terminals in collaboration with the public transport planner.

Position Public Transport Planner

Assignment Public Transport Management Section

Duration 12 months

Duties

To assist the section chief with all aspects of public transport planning and management.

To prepare and implement a bus reorganization and bus/subway integration program.

To prepare outline plans for the bus/subway terminals in collaboration with the TSM engineers.

To prepare and carry out training activities in public transport planning.

APPENDIX 1. TRAFFIC PLANNING DIVISION TECHNICAL ASSISTANCE

	YEAR 1	YEAR 2	MAN MONTHS	
FUNCTION	I-----I-----I		FOREIGN	LOCAL
Transport Planner	=====		24	
TSM Engineer 1	=====			24
TSM Engineer 2	=====		18	
Public Trans. Planner	=====			18
Economist	=====			12
Training Program	--- --- --- ---		3	3
Total			21	81

KOREA

PUSAN URBAN MANAGEMENT PROJECT

Documents Available in the Project File

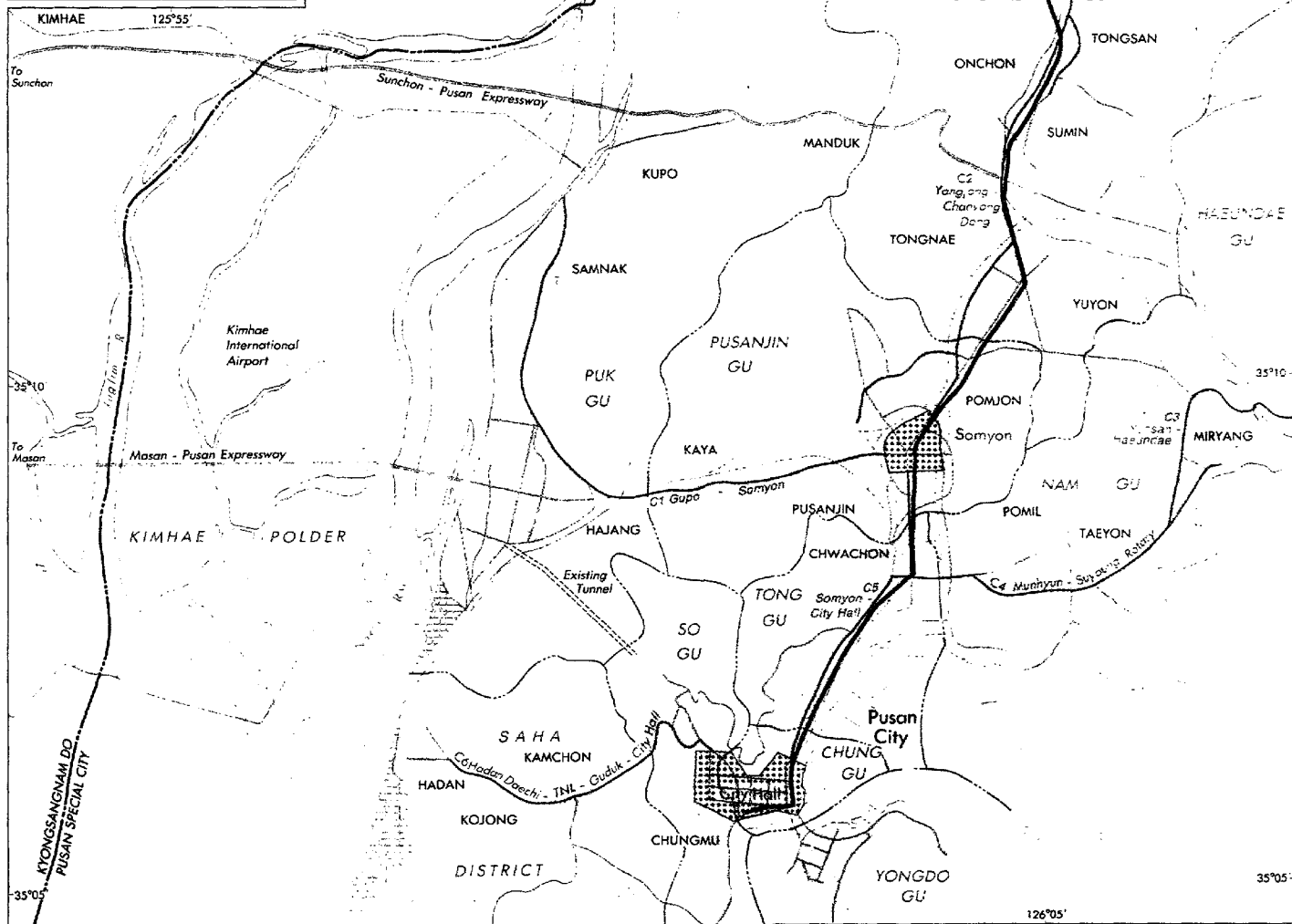
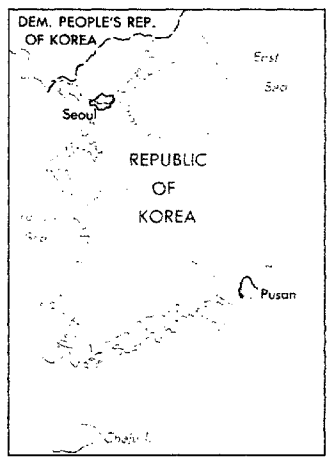
1. Mission Working Papers.

- (a) Details of previous budgetary results for the GA and the SAs.
- (b) PCG's Investment Plan for 1986-90.
- (c) PCG's Detailed Investment Plan for 1987.
- (d) PCG's Long-Term Financial Plan, and detailed financial projections for the General Account and all Special Accounts.

2. Studies and Other Documents

- (a) Pusan City's Statistical Yearbooks for 1985 and 1986.
- (b) Pusan City's Five-Year Plan (1987-91).
- (c) National Bureau of Statistics, Economic Planning Board, Korea Statistical Yearbooks for 1983, 1984 and 1985 (in Division File).
- (d) Economic Planning Board, Major Statistics of the Korean Economy 1984 (in Division File).
- (e) Busan Transportation Improvement Project, Final Report, August, 1980, by Korea Advanced Institute of Science and Technology and YooShin Engineering Corporation.
- (f) Development of a Rapid Transit System in Busan City, Economic Feasibility Study, Summary Report, June 1980, Prepared by the Urban Transport Research Group of RDRI/KIST.

MAP SECTION



REPUBLIC OF KOREA PUSAN URBAN MANAGEMENT PROJECT

- Proposed TSM Corridors
- Expressways (Toll)
- Main Roads
- Railroads
- ▨ Central Business Districts (CBD)
- ▨ Built-up Areas
- Gu (County) Boundaries
- Province Boundary
- Subway (Existing in 1987)

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